

UNIVERSITY OF CALIFORNIA
MUSEUM OF VERTEBRATE ZOOLOGY

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Pitelka, F. A.

1943-1948

1. Glenn, Tehama, Trinity cos., Calif.,
June 11-27, 1943.

Catalog
journal
Species accounts
Plant list

2. Catalog, local and miscellaneous, 1945-1946.

3. Western Nevada, June 1946.

Catalog
journal

4. Catalog, local, 1946

5. Sonora and Sinaloa, Mexico, Oct.-Nov. 1946.

Catalog
journal
Species accounts

6. Catalog, local, 1947

7. Oregon and Nevada, Oct. - 1947.

Catalog
journal
Species accounts

8. Santa Cruz Islands, Calif., Aug.-Sept., 1948.

Catalog
journal
Species accounts
Bird lists



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1.
Pitelka, F. A.

Glenn, Tehama, Trinity cos., Calif.

June 11 - 27, 1943

Catalog nos. 472-595

Journal

Species accounts

Amphibians

Reptiles

Birds

Mammals

Plant list

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1943

2 mi SE Beegun, 1650 ft., Tehama Co., Calif.

June 12, 1943.

| | | | |
|-----|--------------------------------|--|-------------|
| 472 | ♀ <i>Melothrus ater</i> | Largest ovum 4 mm. | Wt. 35.4 g. |
| 473 | ♀ <i>Amphispiza belli</i> | " " 1.5 mm. | 13.4 |
| 474 | ♀ <i>Amphispiza belli</i> | " " 9 mm. | 18.4 |
| 475 | ♂ <i>Amphispiza belli</i> | Testis 7 mm. | 13.7 |
| 476 | ♂ <i>Amphispiza belli</i> | Testis 8 mm. | 14.0 |
| 477 | ? juv. <i>Amphispiza belli</i> | | 14.0 |
| 478 | ♂ <i>Pipilo fuscus</i> | Testis 15 mm. | 54.9 |
| 479 | ♂ <i>Polioptila caerulea</i> | Testis 4 mm. | 5.8 |
| 480 | ♀ <i>Psaltiriparus</i> | Largest ovum 1 mm.; several follicles. | 6.6 |

June 13, 1943

| | | | |
|-----|--------------------------------|----------------------|-------------|
| 481 | <i>Sceloporus occidentalis</i> | | Wt. 12.5 g. |
| 482 | " " | | 6.2 |
| 483 | " " | | 15.1 |
| 484 | " " | | 12.8 |
| 485 | " " | | 14.1 |
| 486 | <i>Cnemidophorus</i> | | 23.6 |
| 487 | <i>Crotalus</i> | | 292. |
| 488 | ♂ <i>Peromyscus truei</i> | 179-91-23-23 | 20.5 |
| 489 | ♀ <i>Amphispiza belli</i> | Largest ovum 1.5 mm. | 15.0 |
| 490 | ♂ " " | Testis 10 mm. | 16.3 |
| 491 | ♂ " " | Testis 9 mm. | 14.5 |
| 492 | ♂ " " | Testis 10 mm. | 17.0 |
| 493 | ♀ " " | Largest ovum 2 mm. | 16.8 |
| 494 | ♂ <i>Psaltiriparus</i> | Testis 3 mm. | 6.2 |
| 495 | ♂ <i>Spinus psaltria</i> | Testis 5 mm. | 9.5 |
| 496 | ♂ <i>Sitta carolinensis</i> | Testis 3 mm. | 16.7 |

Peterson
1943

2 mi SE Beegun, 1650 ft., Tehama Co., Calif.

June 13, 1943.

| | | | | |
|-----|---|-------------------------|---------------|------|
| 497 | ♂ | <i>Pipilo fuscus</i> | Testis 17 mm. | 52.4 |
| 498 | ♂ | <i>Pipilo maculatus</i> | Testis 13 mm. | 38.5 |
| 499 | ♂ | " " | Testis 13 mm. | 40.5 |

June 14, 1943.

| | | | | |
|-----|---|-----------------------|---|---------|
| 500 | ♀ | <i>Dipodomys</i> | 295-182-45-16 2 emb. 11 mm. | 68.5 g. |
| 501 | ♀ | <i>Perognathus</i> | 134-68-19-7 Lactating pr. pect, 2 pr. ing. mammal | 10.2 |
| 502 | | <i>Sceloporus</i> | | 7.5 |
| 503 | | <i>Lampropeltis</i> | | |
| 504 | ♂ | <i>Empidonax</i> | Testis 6 mm. | 13.0 |
| 505 | ♂ | <i>Colaptes</i> | Testis 9 mm. | 152.5 |
| 506 | ♂ | <i>Aphelocoma</i> | Testis 7 mm. | 95.1 |
| 507 | ♀ | <i>Aphelocoma</i> | Largest ovum 1 mm. | 81.9 |
| 508 | ♂ | <i>Molothrus ater</i> | Testis 8 mm. | 38.5 |

June 15, 1943.

| | | | | |
|-----|---|-------------------------|---------------|------|
| 509 | | <i>Cnemidophorus</i> | | 40.2 |
| 510 | ♂ | <i>Aphelocoma</i> | Testis 9 mm. | 99.6 |
| 511 | ♂ | <i>Amphispiza belli</i> | Testis 10 mm. | 15.1 |

2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

June 16, 1943.

| | | | | |
|-----|---|----------------------------------|----------------------|------|
| 512 | | <i>Sceloporus</i> | | 12.8 |
| 513 | ♂ | <i>Polioptila</i> | Testis 6 mm. | 6.0 |
| 514 | ♂ | <i>Dendroica aestiva</i> | Testis 6 mm. | 8.9 |
| 515 | ? | (Juv.) <i>Spizella passerina</i> | | 12.5 |
| 516 | ♂ | <i>Dendroica auduboni</i> | Testis 5 mm. | 12.3 |
| 517 | ♂ | <i>Melospiza melodia</i> | Testis 11 mm. | 21.2 |
| 518 | ♀ | <i>Agelaius phoeniceus</i> | Largest ovum 1.5 mm. | 40.3 |

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2 mi E Hayfork, 2400 ft., Trinity Co., Calif

June 16, 1943

- 519^v ♀ *Agelaius* Largest ovum 5 mm. 43.1
520^v ♂ *Agelaius* Testis 13 mm. 64.3
521^v ♂ *Carpodacus mexicanus* Testis 9 mm. 22.6

June 17, 1943

- 522^v ♂ *Neotoma* 359-164-42.31 227.8
523^v ♂ *Agelaius* Testis 5 mm. 59.3
524^v ♀ *Agelaius* Largest ovum 1/2 mm. 41.0
525^v ♂ *Dendroica auduboni* Testis 8 mm. 12.3
526^v ♂ *Vireo gilvus* Testis 7 mm. 11.5
527^v ♂ *Melospiza melodia* Testis 10 mm. 20.7
528^v ♀ " " Largest ovum 3 mm. 21.4
529^v ♂ " " Testis 10 mm. 20.8
530^v ♂ *Hedymeles* Testis 14 mm. 44.2
531^v ♀ *Pipilo maculatus* Largest ovum 1 mm. 39.6

June 18, 1943.

- 532^v ♀ *Eutamias*. 238-108-34-20. Lactating female! 83.1
533^v ♂ *Vermivora ruficapilla* Testis 2 mm. 8.2
534^v ♂ *Dendroica aestiva* Testis 8 mm. 9.1
535^v ♀ *Dendroica nigrescens* Largest ovum 4 mm. 9.3
536^v ♂ *Passerina amoena* Testis 9 mm. 15.4
537^v ♂ *Molothrus* Testis 6 mm. 40.3
538^v ♂ *Pipilo maculatus* Testis 12 mm. 40.

Hayfork Bally, 5720 ft., Trinity Co., Calif.

June 19, 1943

- 539^v *Peromyscus* 17.8 gm.

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1943

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2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

June 20, 1943.

| | | | |
|-----|-----------------------------|--------------------------------|-------|
| 540 | <i>Rana boylei</i> | | 19.4 |
| 541 | ♂ <i>Eutamias</i> | 231-111-35-23 | 69.0 |
| 542 | ♂ <i>Sciurus griseus</i> | 570-263-72-39. | 796.0 |
| 543 | ♂ <i>Pipilo fuscus</i> | Testis 15 mm. | 52.3 |
| 544 | Juv. <i>Aphelocoma</i> | | 78.5 |
| 545 | ♂ <i>Aphelocoma</i> | Testis 5 mm. | 97.2 |
| 546 | ♂ <i>Dendroica aestiva</i> | Testis 6 mm. | 8.9 |
| 547 | ♀ <i>Dendroica auduboni</i> | Largest ovum $\frac{1}{2}$ mm. | 11.8 |
| 548 | ♂ <i>Dendroica auduboni</i> | Testis .7 mm. | 13.5 |
| 549 | ♀ <i>Thryomanes bewicki</i> | Largest ovum $\frac{1}{2}$ mm. | 9.4 |
| 550 | ♂ <i>Pipilo maculatus</i> | Testis 10 mm. | 40.0 |
| 551 | ♀ <i>Pipilo fuscus</i> . | Largest ovum 2 mm. | 52.0 |

June 21, 1943

| | | | |
|-----|-------------------------------------|----------------|------|
| 552 | <i>Thamnophis</i> | | 35.6 |
| 553 | <i>Clemmys</i> | | 19.3 |
| 554 | Juv. <i>Aphelocoma</i> (alcoholic). | | 83.7 |
| 555 | ♂ <i>Stellula calliope</i> | Testis 2 mm. | 2.4 |
| 556 | ♂ <i>Empidonax difficilis</i> | Testis 4 mm. | 10.2 |
| 557 | ♂ <i>Aphelocoma</i> | Testis .4 mm. | 98.8 |
| 558 | ♂ <i>Dendroica auduboni</i> | Testis 6 mm. & | 11.8 |
| 559 | Juv. <i>Thryomanes bewicki</i> | | 9.7 |

June 22, 1943.

| | | | |
|------|-----------------------|----------------|------|
| 560 | ♂ <i>Peromyscus</i> . | 164-75-21-16 | 22.5 |
| 561 | ♀ <i>Eutamias</i> | 233-111-34-22. | 68.3 |
| 562 | <i>Sceloporus</i> | | 11.8 |
| 563. | <i>Sceloporus</i> | | 10.5 |

Peterson
1943

2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

June 22, 1943

| | | | |
|-----|----------------|---------------------|---------|
| 564 | ♂ Agelaius | Testis 4 mm. | 67.3 g. |
| 565 | juv. ♂ Certhia | Testis 1 mm. | 8.6 |
| 566 | ♀ Agelaius | Largest ovum 1½ mm. | 42.6 |
| 567 | ♂ Actitis | Testis 6 mm. | 34.5 |
| 568 | ♂ Carpodacus | Testis 6 mm. | 17.7 |
| 569 | ♂ Junco | Testis 7 mm. | 16.0 |
| 570 | ♂ Cyanocitta | Testis 6 mm. | 115.0 |

June 23, 1943

| | | | | |
|-----|-------------------|---------------|------------------|-------|
| 571 | ♀ Reithrodontomys | 142-78-17-13 | Lactating female | 15.7 |
| 572 | ♀ Peromyscus | 157-76-19-17 | | 24.2 |
| 573 | ♂ Peromyscus | 157-84-20-15 | | 17.5 |
| 574 | ♂ Microtus | 171-53-21-15 | | 52.9 |
| 575 | ♂ Neotoma | 401-197-40-30 | | 228.4 |

576 Nest of Passerina amoena. In Symplocarpus, 2 ft. above ground.
Hayfork, 2400 ft., Trinity Co., Calif.

June 24, 1943

| | | | |
|-----|--------------------|-------------------------------------|------|
| 577 | ♂ Spinus lawrencei | Testis 6 mm. | 11.7 |
| 578 | ♂ Ammodramus | Testis 12 mm. Coll. by A. N. Miller | 15.5 |

1 mi W Hayfork, 1200 ft., Trinity Co., Calif.

June 25, 1943

| | | | |
|-----|-----------------------|--------------------|------|
| 579 | ♀ Pipilo fuscus | Largest ovum 2 mm. | 48.8 |
| 580 | ♂ Empidonax | Testis 6 mm. | 9.9 |
| 581 | ♂ Baeolophus | Testis 5 mm. | 17.4 |
| 582 | ♂ Myiarchus | Testis 7 mm. | 31.0 |
| 583 | ♂ Icteria | Testis 9 mm. | 28.3 |
| 584 | ♂ Tyrannus verticalis | Testis 15 mm. | 40.1 |
| 585 | ♀ Pipilo maculatus | Largest ovum 2 mm. | 37.9 |

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1 mi W Hyampom, 1200 ft., Trinity Co., Calif.

June 25, 1943

| | | | |
|------|-----------------------------|---------------------|------|
| 586. | ♀ <i>Pipilo fuscus</i> . | Largest ovum 10 mm. | 59.9 |
| 587 | ♂ <i>Sitta carolinensis</i> | Testis 2 mm. | 17.9 |
| 588 | ♂ <i>Oxyechus</i> | Testis 7 mm. | 75.9 |

June 26, 1943

| | | | |
|-----|---------------------|---------------|------|
| 589 | <i>Sceloporus</i> | | 9.3 |
| 590 | <i>Sceloporus</i> | | 14.6 |
| 591 | ♂ <i>Thryomanes</i> | Testis 7 mm. | 9.8 |
| 592 | ♂ <i>Chondestes</i> | Testis 10 mm. | 30.7 |
| 593 | ♂ <i>Molothrus</i> | Testis 9 mm. | 39.6 |
| 594 | ♂ <i>Molothrus</i> | Testis 7 mm. | 41.5 |

2 mi W Hayfork, 2400 ft., Trinity Co., Calif.

June 21, 1943

595 *Clemmys*

Journal

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ITINERARY

7

June 11 2 mi SE Beegum, 1650 ft., Tehama Co., Calif.

Alden H. Miller and I left Berkeley this morning at 7:30, driving northward on U.S. 40 through Richmond, Pinole, Vallejo, Dixon, and turning ^{northward} onto US 99W just west of Davis. We continued northward through the Sacramento Valley to Red Bluff, turning west just north of Red Bluff and progressing through the foothill country to a spot ^{2 miles} south east of Beegum, where we established camp. We arrived at our first collecting locality about 5 p.m. It is ~~not~~ far from the western border of the Sacramento Valley drainage.

In the rice-growing region about Maxwell, Colusa County, we noted a number of swamp- and marsh-inhabiting species. These included Agelaius phoeniceus; Agelaius tricolor (abundant); Butorides virescens (five); Nycticorax nycticorax, 1; Casmerodius albus, common; Ardea herodias, 2; Circus hudsonius, 1; Himantopus mexicanus, 1; Recurvirostra americana, 3; Chlidonias nigra, common; and Oulca americana, one.

About five miles south of Red Bluff, we passed from the Sacramento Valley

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June 11 2 mi. S.E. Beegun. 1650 ft., Tehama Co., Calif.

grassland and agricultural land into the oak woodland. The vegetation for some distance ^{along our route} beyond Red Bluff ^{with only occasional shrubs} was simply scattered oaks, over grassy slopes and flats. (We followed ~~the south fork~~ Dry Creek for slightly less than half the distance between Red Bluff and Beegun. Dry Creek is a tributary of Cottonwood Creek, which drains into the Sacramento River.) At about 800 feet elevation, digger pines (Pinus sabiniana) appeared mixed in with the oaks and shrubs, chiefly manzanita, also appeared as important parts of the vegetation. At an elevation of about 1200 ft., junipers (Juniperus californica) were observed regularly, but only for several miles. Also at this approximate elevation, low chaparral, almost entirely Adenostoma, appeared in patches and became more extensive as we progressed upward.

Our first camp site is situated in the blue oak-digger pine-manzanita complex mentioned earlier. Trees and shrubs are spaced over grassy slopes. On the steeper and higher slopes, this woodland

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1943

June 11 2 mi SE Beegun, 1650 ft., Tehama Co., Calif.
is replaced by fairly extensive areas
of Adenostoma with scattered
digger pines.

June 12 Hunted today north of camp, in part over the
flat between the ^{Beegun} road and the small
stream ~~side~~ which our camp is located. I
continued, then, along one side of the stream
northward to its headwaters and to the
ridge which separates the drainage of our
collecting locality from that of ^{the Middle Fork of} Cottonwood
Creek to the north. Two main habitats
were sampled: First, the blue oak-digger
pine-manzanita in the vicinity of camp.
Secondly, the Adenostoma chaparral along
the slopes and higher ridges. The chaparral
is broken up into patches, ^{generally} of several ~~square~~
hundred square feet to several acres in extent.
The individual shrubs are, ^{frequently} spaced with 1-3 feet
of clear space between them. A number
of ^{dead} shrubs have been noted, and some
are made up of fresh growth from the basal
portions of otherwise dead shrubs. This may
indicate a burn perhaps two or three
years ago. Over flat areas and along
draws in the vicinity of the chaparral, there
again occur blue oak-digger pine-and
manzanita and the marginal mixtures

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1943

June 12 2 mi SE Beegun, 1050 ft., Tehama Co., Calif.
of the two ^{habitat} types is fairly extensive because of the general interspersion.

June 13. This morning I left camp toward the northwest along the road to Beegun, continuing for about $\frac{1}{2}$ mile to the top of a ridge separating the drainage system of our camping locality from that of Beegun proper. From the Beegun road, on the top of this ridge, there ^{Forest Service} is a road continuing to the south over the ridge to the south of our camp and into the next valley. I hunted along this road, spending most of my time, however, near the top of the ridge in *Adenostoma*, around higher ^{denser} chaparral, and in a black-oak grove.

The south slope, in contrast with the north slope (actually southwest vs. northeast), is vegetated with a greater variety of associational types. The lower part of the slope is covered with blue oak-digger pine-manzanita as is the valley flat. Mixed into this are patches of a high, dense chaparral such as is absent on the north slope, consisting of manzanita, *Arceuthobium* *belutoides*, ~~*Erigeron*~~ ^{*Rhus diversiloba*} scrub oak, and several other species, as yet unidentified. Mixed in also along the edge

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June 13

2 mi SE Beegum, 1650 ft, Tehama Co., Calif.

between high chaparral and *Adenostoma*.
is *Eriodactylon*. The latter shrub also occurs
in pure colonies in patches on the dryer
parts of the slope. Areas of high chaparral
are present ~~in~~ ^{most of} over the south slope along
the draws and drainage pockets. *Adenostoma*
covers more than 50% of the upper two
thirds of the slope. Near the ridge of
the south slope, to the east of the Forest
Service road mentioned earlier, there
is an area vegetated with a mixture of
blue oak, black oak (*Q. kelloggi*), and
digger pine. *Rhus diversiloba* is common
~~as~~ a small shrub in openings apparently
left by a ~~forest~~ burn perhaps two ^{or three} years
ago. Several small streams pass through
this area. A yellow-blooming rosaceous
^(*Hypericum perforatum*) annuals, common along these streams.
Also dense tangles of shrubs, grape (*Vitis*
californica), and a variety of annuals
occur along certain parts of the streams.
Two ^{oak} trees of a coastal species (*Q. garayana*)
were noted growing along the immediate
border of one of the streams.

About 40 mouse traps were set out in
the vicinity of camp. Half of these were
placed along ^{and among} the green vegetation of a

Butcher
1943

June 13

2 mi SE Beegun, 1650 ft., Tehama Co., Calif.

stream border. The other half were set on dryer, gentle slopes among scattered manzanita, scrub oak, and digger pine. The ground was covered in part with dried grass (largely Avena and Poa); otherwise it was bare. The loose brown soil was mixed with small pieces of a weathered shale-like rock that appears stratified on exposed slopes between layers of granite. One Peromyscus truei (only!) was caught on bare soil near a dead ^{manzanita} shrub in the vicinity of scrub oak, digger pine, and manzanita, as described above.

June 14.

Hunted on the southwest slope again this morning, but to the east of yesterday's collecting site. I followed a roadway leading into the Bishop Ranch, which is located in the ^{next} valley to the south, but extends to the Beegun Road near our camp. The variety of habitats observed yesterday ~~was~~ again met today except that no black oaks were seen. Instead another species, probably Q. wislizenii, ~~was found~~ was found with Q. lobata and digger pine along a north-facing draw.

40 traps were placed on a south-~~west~~ ^{and} facing slope among scrub oak ^{and} Adenostoma, spaced

Peterson
1943

June 14

2 mi SE Beegun, 1650 ft., Tehama Co., Calif.
soil of
over the slope with intervening spaces
being covered with ¹dry short grass
or remaining bare. One Dipodomys
hermanni and one Perognathus inamatus were
the only mammals caught. The Dipodomys
was taken on bare soil near the base of
an Adenostoma shrub, about the base
of which there were holes which were very
likely entrances to the nest den of this
specimen (a female bearing two
embryos each 11 mm. long). The Perognathus
similarly was taken near the base of a
Adenostoma shrub on a patch of
bare soil near three holes which were
large enough to have been made by
Dipodomys. Adjoining the several square
feet of bare soil was a patch of
dried grass. The soil was brown,
fairly loose, with an admixture of
a gray, shale-like rock weathered to
a gravel consistency. The bait with which the
Perognathus was taken was a mixture of oatmeal and
raisins. Put out 50 traps over the same

June 15.

slope as yesterday in the hope of getting
at least the mate to the Perognathus
caught yesterday (a lactating female). Not a
single mammal was taken!!! in spite of
efforts to place traps into runways, near

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1943.

June 15 2 mi SE Beegun. 1650 ft., Tehama Co., Calif.
Holes, under shrubs, etc.

I returned to the southwest slope along the Forest Service road primarily to take photographs of the burned over *Adenostoma* in which Bell Sparrows were so abundant. Plant collecting was also done.

On the following page, an attempt is made to summarize the local distribution of birds across the valley in two different manners: First, the birds are listed and to the side, there is indicated the occurrence of the species with respect to north slope, valley flat, and south slope; second, to the right of this are six columns, ^{each} representing a major habitat and the habitat occurrence of each species is marked by lines across the appropriate columns. Habitats recognized are

Adenostoma

Tall chaparral

Oak-pine woodland

Black-oak belt.

Woodland-chaparral edge.

Stream border



View across valley flat south of Beegum camp toward N-E facing slope. Note open blue oak-digger pine woodland in foreground, tall chaparral on N-facing sides of draws in the distant slopes. *Adenostoma* covers most of the distant hills.



Habitat of *Dipodomys heermanni* and *Perognathus inornatus*. S-W facing slope, above Beegum camp, with, predominantly, scattered groups of *Adenostoma* shrubs; note scrub oak (*Quercus dumosa*) to the left, digger pine in background, *Avena* in foreground. *Perognathus* caught approximately at point where lines indicated by arrows would meet.

Patelka
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June 15 - 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

We left our Beegun camp in mid-afternoon and resumed travel westward along Calif. Highway 36. We passed through Platina and Wildwood. A short distance beyond Wildwood, we found we had to take a side road connecting 36 with the Hayfork - U.S. 299 connection. (The Wildwood-Peanut road was ^{posted as} not passable because of high water.) We continued along the side road, which followed a tributary of Hayfork Creek, and arrived in the Hayfork Basin about 6 p.m.

In the vicinity of Platina (Shasta Co.), we began to observe black oaks more frequently, and not far beyond, yellow pines. Beyond the ridge separating the Sacramento Valley drainage from that of the Pacific Coast (Shasta Co. - Trinity Co. line), coniferous forest became the predominant vegetation type (although it was of course noted east of that ridge as we came up from the lower woodland level). The species prominent in the forest along the road leading ^{from the main ridge} to Wildwood were Pinus ponderosa, Quercus kelloggii, and Quercus garryana, and Pseudotsuga taxifolia. Also, Libocedrus decurrens and Arbutus menziesii were noted.

The Hayfork basin is surrounded by a forest of primarily yellow pine, ^{oak} and

Patelka
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June 15

2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Douglas fir on higher slopes. The basin itself is oval shaped, longest in an approximate E-W direction, perhaps about 6 miles x 3 miles. Roaching and placer-mining activities have resulted in considerable disturbance to the floor of the basin and its immediate border along the slope bases, but such remnants of forest as are present, chiefly along the periphery of the basin, seem to indicate a forest climax of primarily yellow pine and deciduous oak. Along certain exposed ^{low} ridges on the north side of the basin, digger pines are the more abundant species of conifer. No oaks other than the black and garry oaks were noted.

Probably prior to disturbance, there were meadows along Hayfork Creek, and possibly patches of upland grassland on certain low ridges in the western part of the basin. ~~where~~ We observed areas of grassland with scattered oaks at the latter site.

The general situation there appears to be more xeric than anywhere else in the basin, and the local grassland may be representative of an earlier similar vegetation. Certain portions of the flats to either side

Patelka
1943

June 15

2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

of Hayfork Creek (west of Hayfork) are covered with a ^{scattered} bottomland forest of poplar and willow. Patches of chaparral, primarily tall chaparral, are evident on the eastern slopes of the basin. Grinnell's life-zone map indicates the Hayfork basin as Upper Sonoran, but on the basis of our brief observations, I think the area is better recognized as Transition. The ^{forest} ^{of the bank floor} vegetation is primarily of the yellow pine-oak type. Such grassland and digger pine areas as are present appear to be expressions of edaphic factors rather than climatic factors.

In the evening, we established camp 2 mi E of Hayfork, just east ^{and north} of the Big Creek-Hayfork Creek junction. The open woods surrounding our camp are dominated by yellow pine and gray oak. The ground cover consists of scattered shrubs of manzanita and Ceanothus, the open area covered with grasses and a variety of flowering annuals. Immediately to the south of camp is an area of dense, tall willows, which form the north border of an area along the north side of Hayfork Creek disturbed by placer mining -

Pitelka
1943

June 16 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Hunted this morning in the area of placer diggings south and southwest of camp. Among the 8-10 foot piles of rocks are several ponds and small streams whose borders are vegetated with more or less dense ^{willow} growths. Scattered small groups of oaks and pines are left, and in places tall and extensive heaps of felled trees are present. Song Sparrows are common about the brush heaps in the vicinity of moist pond- or stream-border vegetation. Other species present in the area are Empidonax traillii, Tyrannus carolinensis, Sitta carolinensis, Sayornis nigricans, Dendroica aestiva, Vireo gilvus, and Lophortyx californicus. Along ^{and near} the creek proper, several pairs of Actitis macularia were noted — also a pair of Oxyechus vociferus at one of the ponds. One pond with a good growth of cat-tails harbors a group of ^{five} Red-wings.

June 17

I returned to the same area to obtain additional specimens of some of the especially desired species, as Song Sparrows. Hunting was also done in open woods and grazed brushland (similar to that surrounding camp, described above) along the

Pitecka
1943

June 17 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

east side of Big Creek, south of the highway.

June 18

Investigated some of the dryer, low ridges west of Big Creek. These ridges are a part of the area which appeared to be covered with digger pine as the predominant conifer as we observed the region following our arrival on June 15. The trees on the ridge tops were Pinus sabiniana, Quercus garryana, and only occasional Quercus kelloggii. Mangantia and Leonothus were common shrubs scattered over the grass-covered ground. Certain slopes and pockets were vegetated with a mixture of young yellow pine and Douglas fir and occasional madrone.

The avifauna was surprisingly sparse. Dendroica nigriseans was the most common species. Others present were Myiarchus cinerascens, Vermivora superciliosa, Thryomanes bewickii, Polioptila caerulea, Populus maculatus, Larodacus mexicanus, Colaptes cafer, Cathartes aura.

(Some examination was made also of the border vegetation along Big Creek. The west border is a cut bank with typical pine-oak, madrone, and Leonothus woodland, as described above.

Peterson
1943

June 18

2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

The east border has remnants of the same type of vegetation, but the area is much disturbed. Certain parts have been completely cleared; others show signs of intermittent attempts at clearing and felling of large trees (property of Big Creek Ranch). Occasional patches of willows and alders (Alnus rhombifolia) ^{are present along the creek.} Certain shaded and moister draws along the west side are filled with denser growths of Cornus, Ribes, Rosa, and at least two tree species, as yet unidentified.

June 19

Hayfork Bully, 3200-6262 ft., Trinity Co., Calif.

This morning Miller and I drove along the Big Creek road to its terminus on the east side of Hayfork Bully (as it is known on a Forest Service map, Hayfork "Bully" on U.S. Geol. Quadrangle map). We anticipated climbing the mountain and hunting, but found the area at the foot of the trail posted as a state game refuge, on which we would need special permission to do any hunting. After some deliberation, Miller decided that we would spend the day on the mountain anyway, with a view toward making a general survey of plant community distribution, and occurrence of

Patelka
1943

June 19 Hayfork Bully, 3200-6262 feet, Trinity Co., Calif.
birds and other vertebrates and also with
a view to deciding whether or not a re-visit
with hunting permit would be worthwhile.

The forest from 3200 ft. to approximately
4500 feet was dominated by a mixed asso-
ciation of Black oak, Douglas fir, yellow
pine, ~~and madroño~~, and golden oak.

Ceanothus (integerrimus ^(?)) and shrubby
golden oaks were scattered ~~among~~ ^{over} the more
open areas between trees. At least one other
fairly prominent species — a small tree or shrub
with a laurel like leaf — yet remains to be
determined. ^(Caytonopsis dasyphylla.) The ground flora was dominated
by grasses, patches of Mahoea mat
(Ceanothus prostratus), lupine, and
a number of other species yet to be
determined.

At 4500 feet, the black oak reached its
upper altitudinal level. Yellow pine
continued to 5000 and became absent at
5100 ft. Inense cedar appeared at 5000,
white fir at 4900. Mountain elderberry
was noted at 5400 ft. Red fir was present
on top from 6000 to 6200. On the north side
this species probably continues down to 5900 or
possibly 5800 feet.

On the south and southeast sides of the

Patelka
1913

June 19 Hayfork Bally, 3000 - 6262 feet, Trinity Co., Calif.
mountain, extensive areas of chaparral were seen, dominated by scrubby golden oak, Prunus, Ceanothus cordulatus, Salix, Quercus, Mazanthus, and occasional Amelanchier(?) Such chaparral areas were present from 5000 feet upward. The entire south face from about 5500 feet upward is covered with chaparral.

Along the periphery, and occasionally scattered well into the chaparral were young fir trees, the presence of which would suggest that the chaparral was possibly a successional stage persisting over prolonged periods because of certain edaphic factors. One factor in this instance is the exposed, warmer south face. A second factor is the character of the soil — which is loose and gravelly. The shrub species of the chaparral can withstand apparently the effect of ~~disturbance~~ soil surface disturbed by occasional slight slides. Further, there is little accumulation of organic matter as a result of the ^{of the slope} incline and looseness of the soil. The ^{of loose, sliding soil and minimal organic matter} two factors (and undoubtedly others) may hinder the germination and establishment of conifers so that the invasion rate of conifers into chaparral is very low.

Peterson
1943

June 19

Hayfork Baldy, 3500-6262 ft., Trinity Co., Calif.

At the top of the mountain, there is a Forest Service fire lookout. A cabin at the base of the look-out is occupied (at this time) by an elderly man and his wife, who have apparently lived in the mountainous country of this region for at least 15 or 20 years. There was a wonderful view of the Trinity Alps.

On the way up, beginning at 4000 ft., a tabulation was made of the numbers of each species heard or seen for each 500-foot belt. In all 34 (probably 35) species were recorded between 4000 feet and the summit. The most abundant species in the coniferous forest were Dendroica auduboni, D. occidentalis, Vermivora ruficapilla and Junco oreganus. In the chaparral area, Passerella iliaca and Oberholseria chlorura were most abundant. Other species noted in the chaparral area were Opornis tolmiei, Vermivora celata, Empidonax wrighti, and Chamaea fasciata (5720 ft.).

The Tabulation of species, mentioned above, follows:

Puteika
1943

June 19

Hayfork Bully, 3200-6262 ft., Trinity Co., Calif.

| | 4000- 4500 | 4500- 5000 | 5000- 5500 | 5500- 6000 | 6000- 6262 |
|---------------------------|---------------|---------------|---------------|---------------|---------------|
| Solitary Vireo. | 1 | 2 | 1 | — | — |
| Olive-sided Flycatcher | — | 2 | — | 2 | 2 |
| Robin | 1 | — | — | — | 2 |
| Mountain Quail | — | 1 | — | 1 | 1 |
| Calaveras Warbler | 11 | 8 | 5 | 2 | 1 |
| Mountain Chickadee | 4 | 3 | 1 | — | — |
| Chestnut-backed Chickadee | 2 | — | — | — | — |
| Fox Sparrow | — | — | 6 | 9 | 4 |
| Red-breasted Nuthatch | 6 | 3 | 1 | — | 1 |
| Tolmie Warbler. | — | — | 1 | 3 | 2 |
| Warbling Vireo. | 1 | 1 | 2 | — | — |
| Hermit Warbler. | 4 | 5 | 2 | 1 | 1 |
| Wood Pewee | 3 | 3 | 2 | — | 1 |
| Western Tanager | 3 | 1 | 1 | — | — |
| Flicker | 1 | — | — | — | — |
| Red-breasted Sapsucker | — | 2 | — | — | — |
| Audubon Warbler | 4 | 6 | 5 | 1 | 5 |
| Oregon Junco | 11 | 3 | 2 | — | 3 |
| Black-headed Grosbeak | 3 | — | — | — | — |
| Purple Finch | — | 2 | 1 | — | 1 |
| Brown Creeper | 3 | — | — | — | — |
| Green-tailed Towhee | — | — | 3 | 6 | 5 |
| Hairy Woodpecker | 1 | — | 1 | — | — |
| Golden-crowned Kinglet | 1 | 2 | 4 | — | 1 |
| Bush-tit | — | — | — | 2 | — |
| Stellar Jay | 3 | — | 3 | 1 | 1 |

Patelka
1943

June 19 Hayfork Gulch, 3200-6262 ft., Trinity Co., Calif.

| | 4000- 4500 | 4500- 5000 | 5000- 5500 | 5500- 6000 | 6000- 6262 |
|---------------------------------------|---------------|---------------|---------------|---------------|---------------|
| Hermit Thrush | 4 | 3 | 3 | 2 | |
| Empidonax (wrighti plus hammondi). | 1 | 4 | 5 | 3 | 6 |
| Lutescent Warbler. | | | | 4 | |
| Wren-tit | | | | 2 | |
| Pine Siskin | | 1 | | | 1 |
| Rock Wren | | | | | 1 |
| Turkey Vulture | | | | | 1 |
| Chipping Sparrow | | | | | 1 |

June 20 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Hunted this morning in Duncan Gulch, which is a branch of the Hayfork Creek drainage running to the north, just east of our camp. Duncan Gulch parallels Big Creek and runs through Big Creek Ranch. The lower 300 or 400 yards of Duncan Gulch, just north of the Hayfork highway is unfenced and may be Forest Service land. Here the flat of the gulch is clear, ~~and~~ covered with mat of more or less dry grass. Several patches of Cornus, Rosa, and Salix thickets are scattered in the moister bowls of this flat, and along the stream there are willow and poplar thickets. The slopes to either side are covered with



SE facing slope, along trail to top of Hayfork Bally.
Elevation approximately 5500 ft. Note white
firs, thickets of Prunus, Coanothus.



S-facing slope of Hayfork Bally, 6000-6200 ft.



↑ View from the top of Hayfork Bally to the NNE. Trinity Alps in the distance. Red firs in the foreground.



← Trunk of sugar pine, 4500 ft., Hayfork Bally, June 19, 1942. Entrance to nest of Penthestes gambeli at top of damage area, 6 feet above the ground.

Pitelka
1943

June 20 2 mi E Hayfork, 2400 ft. Trinity Co., Calif.

a mixture of yellow pine, digger pine, black and
garry oaks with ^{scattered} ~~an~~ underbrush of manzanita
and Ceanothus (cuneatus?). On the lower
east-facing slope, the trees are more densely
planted, the pines are all ponderosa, and the
underbrush is a low, more or less spreading
shrub of the genus Ceanothus, ^{lemon.} (~~species as yet~~
~~undetermined~~). Higher on the west-facing
slope, digger pines are more numerous,
the timber thins out generally, and indivi-
dual trees (chiefly oaks and digger pines) are
scattered over slopes covered mainly with
Ceanothus ^{and manzanita}. Yellow pine occurs mainly
along the draws. On the higher parts of the
west-facing ridge, there are large areas of
chaparral dominated by Ceanothus and
Adenostoma. The shrubs of the latter genus
are dead, however. It is possible that
here this chaparral species occurs along the
periphery of its range and may develop
as a constituent of the local chaparral only
intermittently, i.e., over a number of years
during which climatic conditions may be
favorable.

June 21 Hunted again in Duncan Gulch with a
view to going further north than yesterday.
I probably went up about a mile. No

Peterson
1943

June 21

2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

new habitats were found. As far as I went and as far as I could see to the north, the gulch was forested with the pine-oak woodland described earlier.

June 22

Hunted briefly about pond area and border of Hayfork Creek west of camp, then crossed on a suspension bridge to the north-facing slope. Here the forest is denser, moister, and cooler than anywhere else in the vicinity of camp.

It is similar to the forest at the lower elevations on Hayfork Valley, as observed on the 19th. The ^{pre-}dominant tree is Douglas fir, but over certain parts of the lower ~~part of the~~ slope, yellow pine, black oak, garry oak, and madrone are common. The underbrush is chiefly manzanita, Ceanothus (integerrimus?), and golden oak. The avifaunal association is strikingly unlike anything seen north of Hayfork Creek in the vicinity of camp. — Cyanocitta, Certhia, Penthestes ~~republicanus~~ ^{republicanus}, Hylouchla guttata, Regulus, Setticornis, etc.

Placed ^{moist} 30 traps about willow, dogwood Rhus, and ~~cross~~ thickets along a stream passing by camp. The catch con-

Pitelka
1943

June 22 2 mi E Hayfork, 2400 ft; Trinity Co., Calif.
sisted of 1 ♂ Peromyscus maniculatus,
1 im. ♂ Neotoma, and 1 im. ♀ Reithrodonto-
mys.

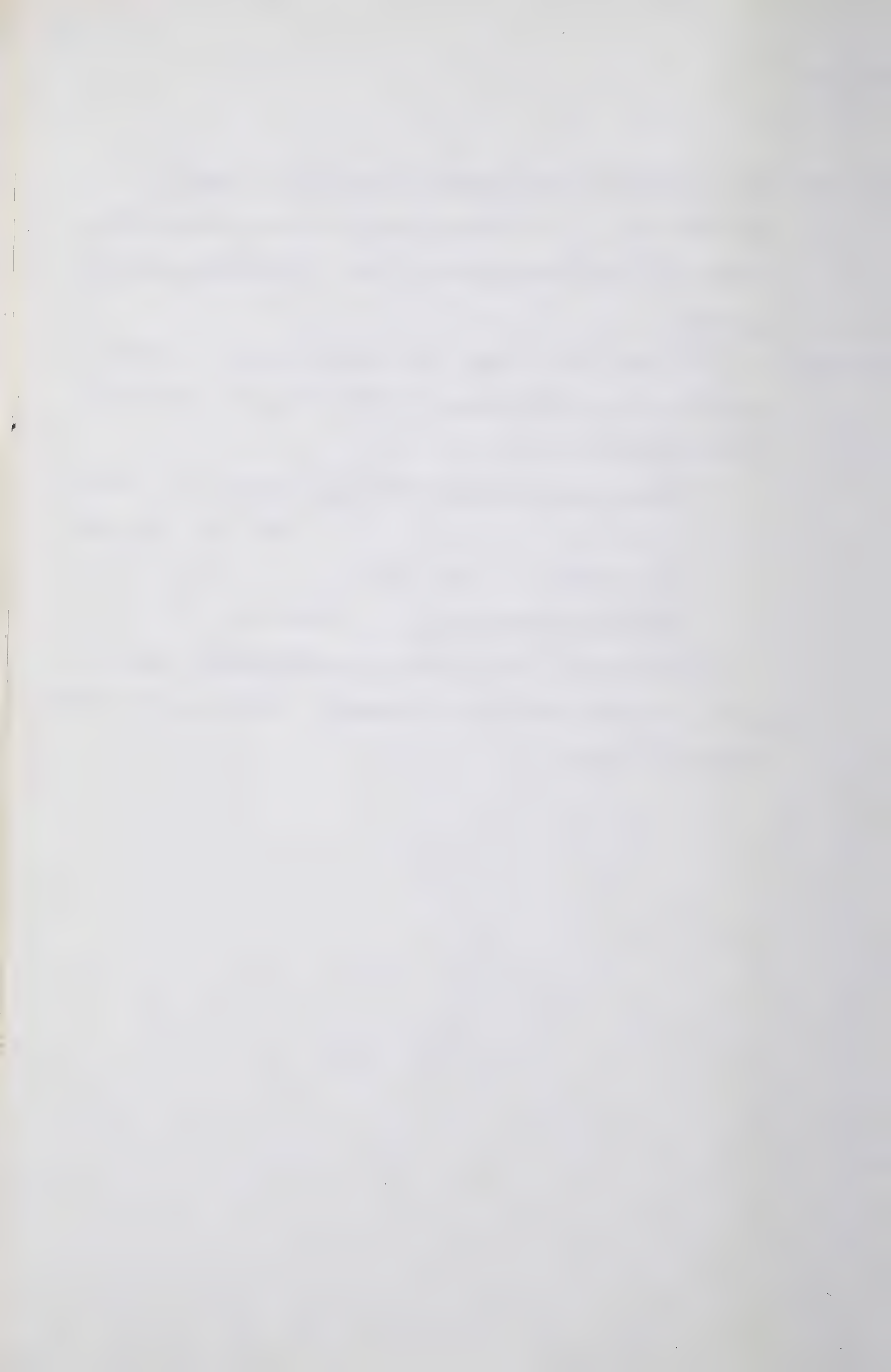
June 23. Placed 37 traps into the same area,
setting in the same places, in part.
The catch was

Peromyscus maniculatus, 1 im. ♂, 1 ad. ♂,
1 im. ♀, 1 ad. ♀.

Microtus, 1 ad. ♂

Reithrodontomys, 1 ad. ♀.

Four rat traps were set out, each
near a wood rat nest. One adult ♂
was taken.



Petelka
1943

June 24 Hayfork, 2400 ft., Trinity Co., Calif.

After breaking camp this morning we drove along a number of roads south and southwest of Hayfork, following two ^{separate} roads into the forest up from the basin to obtain a better picture of the general character and distribution of the major habitats. Also, we investigated several green fields for presence of Grasshopper Sparrows. The first road driven over was that leading ^{approximately} S-SE from town toward Kingsbury Gulch, Mueller Mines, etc. After the cultivated areas of the basin floor, we entered a mixed pine-oak woodland similar to that in the vicinity of our camp east of Hayfork, but with perhaps more oak. The second road driven over led along Tule Creek approximately southwest of town. Here, again, a similar forest was seen, but *margamita* was the most abundant understory species, probably because of the north to north-eastern exposure in contrast to more direct exposure to sunlight in the vicinity of camp. Following our return from this second side trip we again investigated for presence of Grasshopper Sparrows. (Earlier in the morning no songs were heard.)

Petelka
1943

June 24 Hayfork, 2400 ft., Trinity Co., Calif.

After an hour or so ~~up~~ hunting for them — rather chasing them down in a large alfalfa field, — Muller succeeded in obtaining three: A large flock of Green-backed Goldfinches with Pine Siskins, Lawrence Goldfinches, and House Finches intermixed fed in weed patches chiefly along the irrigation ditches.

Following a trip to the general store in Hayfork for supplies, we left along the road to Hyampom to the northwest. For the greater part of the distance between Hayfork and Hyampom, we travelled through a forest of Douglas fir, madrone, golden oak, yellow pine, and occasional incense cedars. Along the way, we drove up behind a doe and a fawn not very old as it wobbled in attempting to run, and it soon became tired and rested on the ground. We drove up to it and took a picture of it. The female remained in the thickets along a slope above us, occasionally approaching toward the road, but never coming out of the thicket while we were there. The fawn was heard giving a kitten-like mew, as it rested among vegetation after leaving the spot on the road where

Petelka
1943

June 24

1 mi W Hyampom, 1200 ft., Trinity Co., Calif.

we photographed it.

Along much of the way, we were in sight of Hayfork Valley and observed scattered patches of chaparral along the southwest and south slopes. This, of course, suggests the probable means whereby the Wren-tit might move upward and reach the chaparral at 5700 feet where we noted this species on June 19. It would be of interest and value to have an aerial map of this region to determine the interspersed and distribution of chaparral in the main coniferous forest mass which covers most of the area.

Our camp at Hyampom is located at the base of the north wall of the more or less enclosed basin in which the town is situated at the east end. In the eastern part of the basin, Hayfork Creek joins the South Fork of the Trinity River, the latter continuing westward. The flat of the basin is largely grass-covered. To either side of the main stream of the river are cobble washes which are probably filled at high water in spring. Temporary ponds are scattered along these washes along the main stream as well as along the washes,

Peterson
1943

June 24

1 mi W Hyampom, 1200 ft., Trinity Co., Calif.

there are willow thickets and a few groves of larger willows and poplars. The slopes surrounding the Hyampom flat are covered predominantly with Douglas fir. About the periphery of the flat, there are scattered thickets of willow, ash, ^{cottonwood, Rhus,} and grape, and the lower slopes, especially on the north side, are covered with a mixed, more or less open woodland.

June 25

Hunted for about an hour on the flat south of camp, among willow and cottonwood thickets, then moved up onto the south facing slope above camp. The lower slope is vegetated with a deciduous growth ^{of} predominantly Garry oak with occasional golden oaks mixed in. The latter species becomes more abundant 75-100 feet above the base of the slope. In the draws along streams, there are willows, ^{Rhus and} ~~grape~~ thickets and ashes. Between patches of woodland, there are sizable patches of open grass, especially on drier slopes and on some of the lower prominences. Again, between the oaks, there are mixed growths of shrub including Rhamnus, mangamita, Rhus trilobata, and R. diversiloba, Ceanothus, and Cercocarpus. In certain portions of the

Piercka
1943

June 25

1 mi W Hayfork, 1200 ft., Trinity Co., Calif.

slope, there is a mixture of Douglas fir, madrone, yellow pine and digger pine with the two species of oaks. All in all, there is a complex intermingling of a number of species, which in our earlier experiences were more or less segregated. Thus, the species of the flat about camp at Hayfork vs. those of the north-facing along Hayfork Creek are here mixed on a south-facing slope. However, this location is closer to the coast. The area is definitely more humid, as evidenced in part by the fresh green grass growing over certain parts of the south-facing slope. Logically, the species observed in drier situations about Hayfork, e.g., Ceanothus canescens, should drop out to the west.

100 to 150 feet up the slope, ^{and upward} there prevails a scattered chaparral thickets, dominated chiefly by manzanita, ^{Ceanothus} and Garrya. Yellow pine, digger pine, firs, and oaks are scattered through this chaparral.

In general, there was not much song among the local birds this morning. Most species, ^{breeding locally} had young out of the nest.

32 mouse traps were set out last

Pielke
1943

June 25

1 mi W Hyampson, 1200 ft., Trinity Co., Calif.

night in thickets of dead brush and grapes and along a marginal willow thicket about the bases of the trunks. Only one immature male Peromyscus maniculatus (and one juvenal Brown Towhee, apparently just out of the nest) was caught.

June 26.

Hunted on the flat, ^{Southwest of camp again.} during the earlier part of the morning. In addition to comments made earlier regarding the general habitat here, I would mention that Sambucus as a large shrub or small tree together with scattered thickets of Rosa and Rhus diversiloba and P. trilobata occur on the higher areas between and among the cottonwood and willow groves. Furthermore, the presence of at least one incense cedar and one yellow pine on the western part of this flat would indicate that at least there, the flat was originally covered with a forest comparable in character to that on the slope to the north.

Later I moved to the south-facing slope west of camp, observing and collecting plants more than hunting. I followed a cattle trail up one of the draws, perhaps 300 feet, into the area where scattered chaparral patches occur.

Pitelka
1943

June 26

1 mi W Hyampson; 1200 ft., Trinity Co., Calif.

within the pine-fir-oak forest. The composition of the forest as regards species remained consistent along the slope, though locally there were shifts in the predominance of certain trees and shrubs.

Took photographs of (1) edge of woodland showing grape thickets, Garry oak, ash, and digger pine; (2) thicket of willow and ash along north rim of Hyampson flat; (3) open ^{grassy} woodland of Garry oak and manzanita underbrush, and (4) view across Hyampson basin showing east end of South Fork Mtn. and southeastern slope of the basin.

A thunder storm came up last night that lasted well into the early morning. There were protracted ^{one soon followed by another} peels of thunder, with light rain until the early morning when heavy local thunder was followed by a down-pour, after which there was only occasional light rain. This storm broke the spell of cool weather. Today has been warm — ^{and bright} hot, in the direct sun.

June 27

Returned via Hayfork, Peanut, and Calif Highway 36 to Red Bluff, thence southward to Berkeley.

Species accounts

Amphibians

Pittella
1943

Rana boylei

June 20 Zornite Hayfork, 2400 ft., Trinity Co., Calif.

One taken in small stream in
Duncan Gulch. Small individuals
of this species were common.

Reptiles

Patelka
1943

Sceloporus occidentalis

June 13-14 2 mi SE Beegun, 1650 ft., Tehama Co., Calif.

Common throughout the region. Seen most frequently about scattered brush heaps, fallen ^{dead} trunks, and bases of living trees in the oak-pine woodland. Several collected on both dates.

June 22 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Two taken on garry oak trunk about six feet above ground in open pine-oak woodland west of camp. (One taken also on June 16 in the same area. Noted up to 3650 feet on Hayfork Bully on June 19.)

Pitelka
1943

Cnemidophorus tesselatus

June 13-15 2 mi SE Beegun, 1650 ft., Tehama Co., Calif.

Present in the Adenostoma on the south slope. Not common, but apparently regularly distributed. They emerge from their burrows around 9 to 10 o'clock in the morning, depending, it seems, on the temperature for the most part. One taken on the 13th, another on the 15th.

Patelka
1943.

Gerrhonotus

June 19 Hayfork Valley, 5720 ft., Trinity Co., Calif.

One taken on gravelly soil slide
among small shrubs in area of chaparral
on south-facing slope.

Peterson
1943

Lampropeltis

June 14 2 mi SE Beegun, 1650 ft, Tehama Co., Calif.

One taken as it moved near a shrub thicket of manzanita and scrub oak in an opening within a oak-pine woodland.

Petecka
1943

Thamnopis

June 21 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

One taken at the edge of a mass of Ceanothus brush in open oak woodland bordering a gravel and cobble wash with a small stream and thickets of willow, rose, and Rhus.

Peterson
1943

Crotalus

June 13

2 mi SE Beegun, 1650 ft., Tehama Co., Calif.

One taken in Adenostoma chaparral near the ridge of the south slope. It was detected coiled up near the base of ~~one shrub~~ ^{one shrub} as I moved about hunting for Bell Sparrows. The chaparral was

Reelka
1943

Clemmys

June 21 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Two taken in small sand and rock-bottomed stream along Duncan gulch. The species was also noted earlier in the vicinity of small ponds about the placer-diggings south of camp.

Birds

CHECK-LIST OF BIRDS

Peterken
1943

| | Beechum | Hayfork | Hyampom |
|----------------------------------|---------|---------|---------|
| <i>Ardea herodias</i> | | ✓ | ✓ |
| <i>Cathartes aura</i> | ✓ | ✓ | ✓ |
| <i>Accipiter cooperi</i> | ✓* | ✓ | ✓ |
| <i>Pandion haliaetus</i> | | ✓ | ✓ |
| <i>Buteo borealis</i> | ✓ | ✓ | ✓* |
| <i>Falco sparverius</i> | | ✓ | ✓* |
| <i>Lophortyx californicus</i> | ✓ | ✓ | ✓ |
| <i>Oreortyx pictus</i> | ✓ | ✓ | |
| <i>Oxyechus vociferus</i> | ✓ | ✓ | ✓ |
| <i>Actitis macularia</i> | | ✓ | ✓ |
| <i>Columba fasciata</i> | | ✓ | ✓ |
| <i>Zenaidura macroura</i> | ✓ | ✓ | ✓ |
| <i>Geococcyx californianus</i> | ✓ | | |
| <i>Otus asio</i> | ✓ | ✓ | ✓ |
| <i>Bubo virginianus</i> | ✓ | ✓ | ✓* |
| <i>Chordeiles minor</i> | | ✓ | |
| <i>Phalaenoptilus nuttalli</i> | ✓ | | |
| <i>Chaetura vauxi</i> | | ✓ | |
| <i>Colaptes auratus</i> | ✓ | | |
| <i>Stellula calliope</i> | | ✓ | ✓ |
| <i>Megascops alcyon</i> | | ✓ | |
| <i>Colaptes cafer</i> | ✓ | ✓ | ✓ |
| <i>Ceophloeus pileatus</i> | | ✓ | ✓* |
| <i>Salasphya formicivora</i> | ✓ | ✓ | ✓ |
| <i>Sphyrapicus varius</i> | | ✓ | |
| <i>Dryobates villosus</i> | ✓ | ✓ | ✓ |
| <i>Dryobates pubescens</i> | ✓ | ✓ | ✓ |
| <i>Dryobates nuttalli</i> | ✓ | | |
| <i>Tyrannus verticalis</i> | ✓ | | ✓ |
| <i>Myiarchus cinerascens</i> | ✓ | ✓ | ✓ |
| <i>Sayornis nigricans</i> | | ✓ | ✓ |
| <i>Empidonax traillii</i> | ✓ | ✓ | ✓ |
| <i>Empidonax hammondi</i> | | ✓ | |
| <i>Empidonax wrighti</i> | | ✓ | |
| <i>Empidonax difficilis</i> | | ✓ | ✓ |
| <i>Myiarchus richardsoni</i> | ✓ | ✓ | ✓ |
| <i>Nuttallama borealis</i> | ✓ | ✓ | |
| <i>Tachycineta thalassina</i> | ✓ | ✓ | ✓ |
| <i>Stelgidopteryx ruficollis</i> | | ✓ | |
| <i>Hirundo erythrogaster</i> | | ✓ | |
| <i>Petrochelidon albifrons</i> | ✓ | ✓ | ✓ |
| <i>Cyanocitta stelleri</i> | | ✓ | ✓* |
| <i>Aspilochoma californica</i> | ✓ | ✓ | ✓ |
| <i>Penthestes gambeli</i> | | ✓ | ✓ |
| <i>Penthestes rufescens</i> | | ✓ | ✓ |
| <i>Baeolophus inornatus</i> | ✓ | ✓ | ✓ |
| <i>Psaltriparus minimus</i> | ✓ | ✓ | ✓ |
| <i>Sitta carolinensis</i> | ✓ | ✓ | ✓ |
| <i>Sitta canadensis</i> | | ✓ | ✓ |
| <i>Certhia familiaris</i> | | ✓ | ✓ |
| <i>Chamaea fasciata</i> | ✓ | ✓ | ✓ |
| <i>Troglodytes aedon</i> | ✓ | ✓ | ✓ |
| <i>Thryomanes bewickii</i> | ✓ | ✓ | ✓ |

* cf. Notes of A. H. Miller

| | Beechum | Hayfork | Hyampom |
|--|---------|---------|---------|
| <i>Salpinctes obsoletus</i> | | ✓ | |
| <i>Troglodytes aedon</i> | ✓ | ✓ | |
| <i>Turdus migratorius</i> | | ✓ | ✓ |
| <i>Hylocichla guttata</i> | | ✓ | |
| <i>Sialia mexicana</i> | ✓ | ✓ | |
| <i>Poliophtila caerulea</i> | ✓ | ✓ | ✓ |
| <i>Regulus satrapa</i> | | ✓ | |
| <i>Vireo huttoni</i> | ✓ | ✓* | ✓ |
| <i>Vireo solitarius</i> | ✓ | ✓ | ✓ |
| <i>Vireo gilvus</i> | | ✓ | ✓* |
| <i>Vermivora celata</i> | ✓ | ✓ | ✓* |
| <i>Vermivora ruficapilla</i> | | ✓ | ✓ |
| <i>Dendroica aestiva</i> | | ✓ | ✓ |
| <i>Dendroica auduboni</i> | | ✓ | ✓ |
| <i>Dendroica nigrescens</i> | | ✓ | ✓ |
| <i>Dendroica occidentalis</i> | | ✓ | ✓ |
| <i>Geothlypis trichas</i> | | ✓ | ✓ |
| <i>Icteria virens</i> | | ✓ | ✓ |
| <i>Sturnella neglecta</i> | ✓ | ✓ | ✓ |
| <i>Agelaius phoeniceus</i> | | ✓ | ✓ |
| <i>Icterus bullockii</i> | ✓ | ✓ | ✓ |
| <i>Euphagus cyanocephalus</i> | ✓ | ✓* | ✓ |
| <i>Melospiza cinerea</i> | ✓ | ✓ | ✓ |
| <i>Piranga ludoviciana</i> | ✓ | ✓ | ✓ |
| <i>Idempneles melanocapillus</i> | ✓ | ✓ | ✓ |
| <i>Passerina amoena</i> | ✓ | ✓ | ✓ |
| <i>Carpodacus purpureus</i> | | ✓ | ✓ |
| <i>Carpodacus mexicanus</i> | ✓ | ✓ | ✓ |
| <i>Spinus pinus</i> | ✓* | ✓ | ✓ |
| <i>Spinus psaltria</i> | ✓ | ✓ | ✓ |
| <i>Spinus lawrencei</i> | ✓ | ✓ | ✓ |
| <i>Oberholseria chrysola</i> | | ✓ | ✓ |
| <i>Pipilo maculatus</i> | ✓ | ✓ | ✓ |
| <i>Pipilo fuscus</i> | ✓ | ✓ | ✓ |
| <i>Ammodramus sarnianus</i> | | ✓ | ✓ |
| <i>Chondestes grammacus</i> | ✓ | ✓ | ✓ |
| <i>Amphispiza bilineata</i> | ✓ | ✓ | ✓ |
| <i>Junco oreganus</i> | | ✓ | ✓ |
| <i>Spizella passerina</i> | ✓ | ✓ | ✓ |
| <i>Passerella iliaca</i> | | ✓ | ✓ |
| <i>Melospiza melodia</i> | | ✓ | ✓ |
| <i>Anas platyrhynchos</i> | | ✓* | |
| <i>Progne subis</i> | ✓* | ✓* | |
| <i>Corvus brachyrhynchos</i> | | ✓* | |
| Totals (no. of species). | 54 | 90 | 61 |
| No. of species seen at one major location only | 4 | 23 | 1 |
| Grand total - 97. | | | |

* cf. Notes of A. H. Miller

Pitelka
1943

Ardea herodias

June 16 2 mi. E Hayfork, 2400 ft., Trinity Co., Calif.

One flushed from pool border in area of placer diggings along Hayfork Creek.

June 17-22 Noted on a number of occasions about the ponds of the area mentioned above.

June 24 Hyampson, 1200 ft., Trinity Co., Calif.

One noted along Hayfork Creek as we came into Hyampson.

Pitelka
1943.

Cathartes aura

June 12-15 2 mi SE Beegum, 1650 ft., Tehama Co., Calif.

Occasional individuals, less frequently two or three, have been observed soaring or flying over various parts of the entire area studied by us.

June 17-19 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Occasional birds observed soaring over the open pine-oak woodland, cleared ranches, and chaparral in the vicinity of camp. On the 19th, vultures were observed roosting in a dead oak tree on the wooded western slope along Big Creek, not more than $\frac{1}{2}$ mile from the highway. This was apparently a regular roost as birds were observed returning there several times during the morning.

June 20. Three observed on the ground in a pasture among cattle. They appeared to be feeding.

June 20 Hayfork Butte, 6262 ft. (summit), Trinity Co., Calif.

One observed soaring over the top and east side of the mountain.

June 24-26 1 mi W Hyampson, 1200 ft., Trinity Co., Calif.

Several seen each day flying and soaring over the flat and south-facing slope in the vicinity of camp.

Peterson
1943

Amphispiza cooperi

June 20 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

One noted circling over open pine-oak woodland east of camp and calling regularly.

June 25-26 1 mi E Hyampom, 1200 ft., Trinity Co., Calif.

One seen several times each day during hunting along the lower part of the south-facing slope above camp. It moved about chiefly over the open garry oak woodland. Probably this bird - a female - was nesting in the vicinity.

Patelka
1943.

Buteo borealis

June 12 2 mi SE Beegun, 1650 feet, Tehama Co., Calif.

One observed on the northeast slope over an area of pine-oak-manzanita woodland.

June 20-21 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

One observed over the woodland and chaparral of the east slope of Duncan Gulch.

June 24 Tule Creek road, 2 mi SW Hayfork, 2400 ft., Trinity Co., Calif.

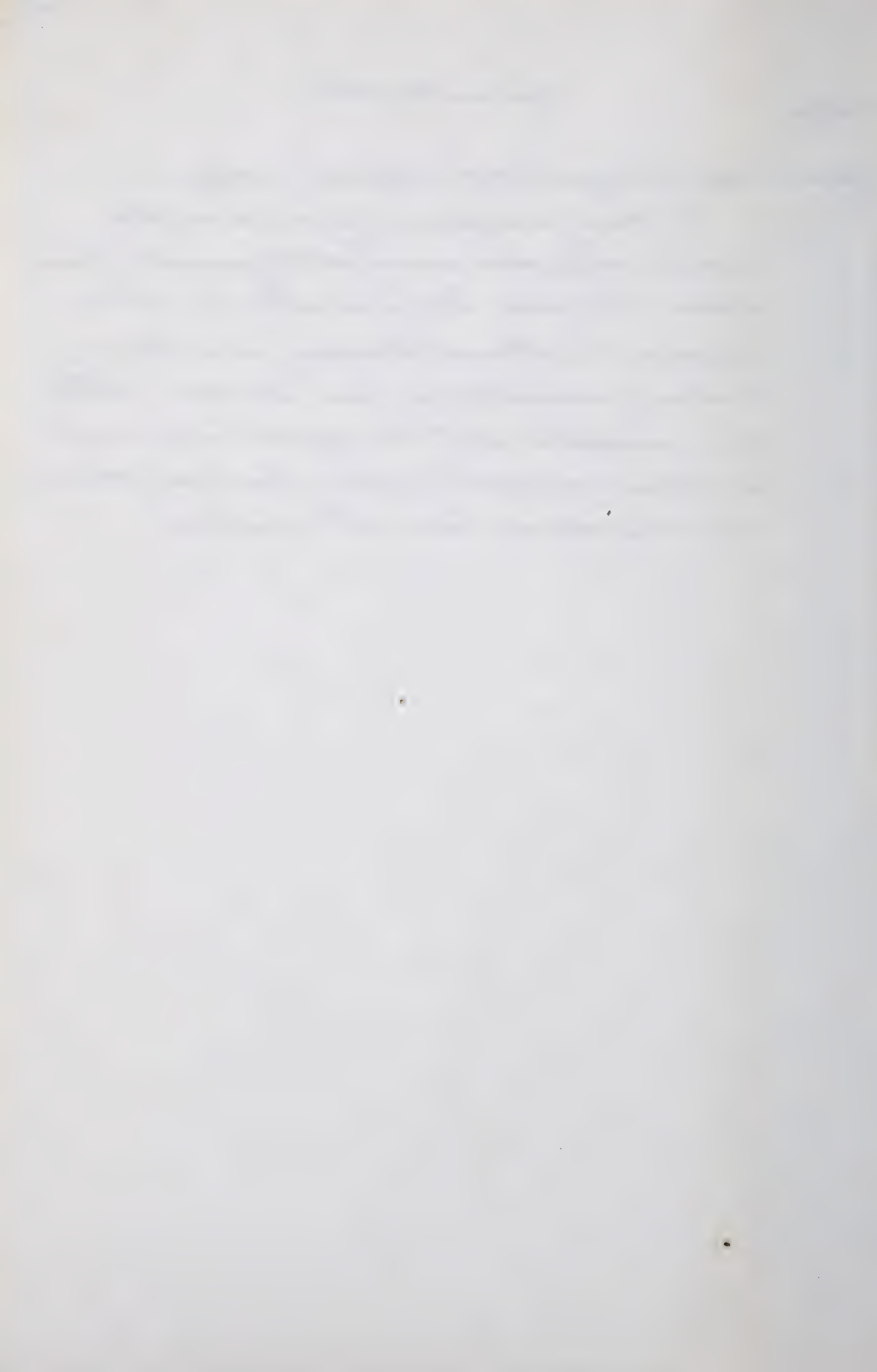
^{Carcasses of} ~~Nine~~ Red-tailed Hawks, ^{probably} killed by some local hunter or farmer, were found accumulated about a juniper oak in woodland near the road. Several of them were strung up on a wire along one of the lower limbs. Most of the ~~carcasses~~ were those of immature birds. At least one fully adult bird was among them.

Pitelka
1943

Aquila chrysaetos

June 13 2 mi SE Beegun, 1650 ft., Tehama Co., Calif.

A large falconiform flying along the north ridge was identified as possibly this species. At first, I thought it to be a vulture, thinking the alternate soaring and heavy beating of wings as peculiar. However, Miller then suggested it to be a Golden Eagle, and on closer appraisal of wing-tail proportion, the bird certainly was not a vulture.



Putelka
1943

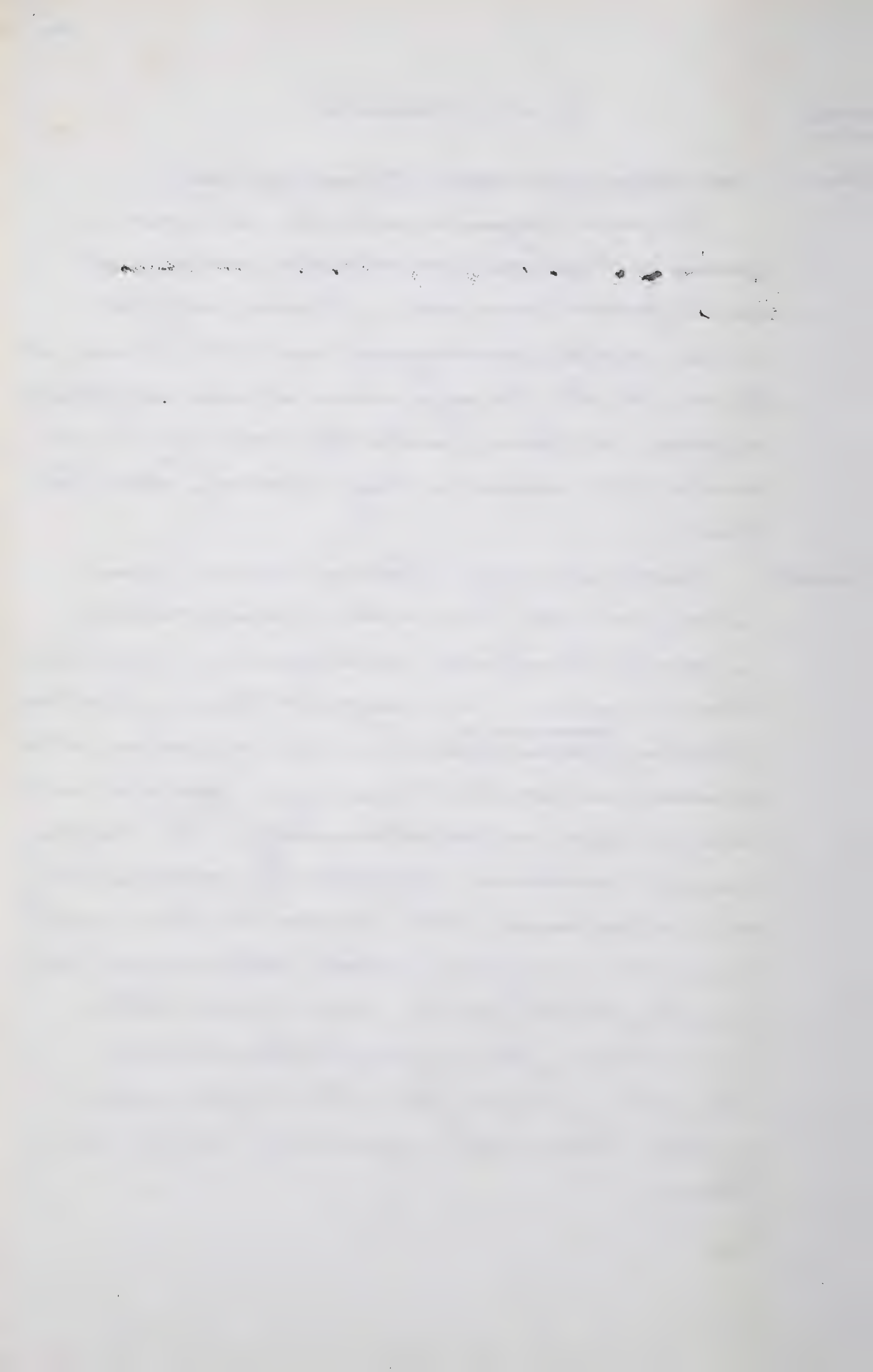
Pandion haliaetus

June 24 1 mi W Hyampom, 2200 ft., Trinity Co., Calif.

One seen flying overhead. It gave a series of high-pitched whistled notes just as it passed over me. I saw only the clear white underpart and the brownish black back. The size seemed correct for an osprey. It flew eastward beyond the town and onto a slope among several ^{tall} dead fir trees.

June 26.

Osprey seen again today when I was in a part of the flat s. w. of camp where a pair of Kingbirds were giving repeated alarm calls. Two separate flocks of Bullocks Orioles, ^{apparently} established in neighbouring cottonwoods separated by an open space of about 200 ft., also called alarmedly. The osprey circled overhead, apparently attracted by the disturbance. When he was within 30 feet or so of the tall partly dead cottonwood surrounded by the Kingbirds, one of the latter immediately flew up and attacked him. After the first scuffle, the osprey again circled back and a second scuffle took place.



Pitelka
1943

Fulco sparverius

June 21 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

One observed flying over ^{open} woodland
on the east slope of Duncan Gulch.

June 24 Hayfork, 2400 ft., Trinity Co., Calif.

Several individuals and one pair of
Sparrow Hawks were noted about cultivated
fields and farmland west and south of
Hayfork.

Pitelka
1943

Oreortyx picta

June 12 2 mi SE Beegun, 1650 ft., Tehama Co., Calif.

Two different individuals heard calling along the north ridge above camp from a distance in both instances so that specific assignment to plant type cannot be made. The area was one vegetated with interspersed oak-digger pine-marganita (denser than on other parts of the north slope or on the valley flat) and Adenostoma.

June ¹⁶⁻18 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Heard from a chaparral covered ridge forming the east boundary of Aldenau Gulch, just northeast of camp.

June 19. Hayfork Bully, 3200-6262 ft., Trinity Co., Calif.

At least three individuals heard calling at altitudes ranging from 4500 ft. to 6000 ft.

Patelka
1943

Lophortyx californica

June 12 2 mi SE Beegun, 1650 ft., Tehama Co., Calif.

Noted ~~on~~ the northeast slope at several places, including an area of mixed Adenostoma chaparral and woodland near the bottom of the slope as well as a similar situation on the north ridge. Mountain Quail were heard ^{on the north ridge} to either side of the area where the California Quail was observed.

June 13. Observed on the south slope in areas of mixed woodland and chaparral.

June 16-18 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Occurs in the open pine-oak woodland. The characteristic shrubs — Ceanothus, manzanita, Rhus, etc. — when present near grassy openings or along the edge of fields provide a suitable habitat.

One pair was observed (June 16-17) in the vicinity of heaps of dead brush, willow thickets, and ^{and} open grassy flats in an area of placer digging west of camp.

June 24 1 mi W Hyampson, 1200 ft., Trinity Co., Calif.

Miller collected a pair at camp. along the edge of the woodland in grape, ^{Photo} and willow thickets ~~about~~ ^{among} ashes and oaks. He reports that the female ~~had~~ laid several eggs just recently. Other quail were heard in neighboring areas.

Pitelka
1943

Oxyechus vociferus

June 12-15 2 mi SE Beegun, 1650 ft., Tehama Co., Calif.

At least one pair are present in the vicinity of ~~the~~ a small stream and one of its tributaries near camp. (Other additional individuals ~~have been~~ were noted regularly along streams to the east as we travelled on the 11th.)

June 16-18 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

One pair established around several small ponds in an area of placer digging just east of Big Creek along Hayfork Creek.

June 24-26 1 mi W Hyampom, 1200 ft., Trinity Co., Calif.

A group of five present about ponds in the cobble washes paralleling South Fork to the south of camp. One was taken on the 25th. Its plumage was peculiarly mottled, and molt was in progress ^{at least} on the primaries of the wings.

Pittella
1943

Actitis macularia

47

June 15 Platina, Shasta Co., Calif.

One noted along a stream just west of town as we left there.

June 16-17

2 mi. E Hayfork, 2400 ft., Trinity Co., Calif.

Several pairs noted along Hayfork Creek east of the Big Creek junction.

June 24-26 1 mi W Hyampson, 1200 ft., Trinity Co., Calif.

One heard along South Fork on the 24th and again on the 26th.

Patelka
1943

Columba fasciata

June 21 3 mi E Hayfork, 2400 ft, Trinity Co., Calif.

One seen flying along the east slope
of Arnean Gulch.

June 26 1 mi E Hyampson, 1200 ft, Trinity Co., Calif.

A pair seen flying ~~flying~~ over a ^{forested} south-
facing slope above camp.

Pitelka
1943

Zenaidura macroura.

June 12-15 2 mi SE Beegum, 1650 ft., Tehama Co., Calif.

Fairly common throughout the area covered by our collecting. Feeding and perching in the woodland primarily, although an occasional bird or two was flushed from open stands of Adenostema. One nest was found (June 14) on the valley flat in a blue oak, 9 feet above the ground. It contained young. The nest was built almost entirely of thickish grass stems, and appeared as substantial as any Mourning Dove nest I've ever seen. The nest was saddled on one of the main lower limbs of the tree, about 3 feet from the trunk.

June 16-18 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Regularly distributed, but not common in the open pine-oak woodland, especially about openings and in the vicinity of fields and pastures.

June 25-28 1 mi W Hyampom, 1200 ft., Trinity Co., Calif.

Several seen or heard during hunting on the Hyampom flat and the south-facing slope north of camp. They occurred chiefly in the open Garry oak woodland near the base of the slope and along the woodland edge bordering on the open flat.

Patelka
1943

Geococcyx californianus

June 15 2 mi SE Beagun, 1650 ft, Tehama Co., Calif.

One taken ^{by Miller} from Adenostoma
chaparral on the northeast ridge. It
was detected by series of notes, given
at variable interval, that sounded
somewhat like raven notes at a distance.
The bird proved to be a female.

Patelka
1943

Otus asio

June 12-15 2 mi SE Beegun, 1650 ft., Tehama Co., Calif.

Heard from the pine-oak woodland of one of the draws on the north slope to the west of camp.

June 16-22 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Present in open woodland of mixed pine and oak along Duncan Creek. Miller collected one pair and an adult of one other pair.

June 24 1 mi W Hyampom, 1200 ft., Trinity Co., Calif.

One taken by Miller in open woodland of oaks, along the base of a south-facing slope above camp.

Pitelka
1943

Bubo virginianus

June 12-13 2 mi SE Beegun, 1650 feet, Tehama Co., Calif.

One, ^{adult} heard from a distance on the south slope during the night of both dates. Miller reports having heard a young one, also.

June 20 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Miller reported hearing one last night.

Pitelka
1943

Charadrius minor

June 21 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

One heard at about 5 a.m. flying near camp and apparently just passing by. I was awakened by the note and heard it several times. Miller also heard it.

Pitelka
1943

Phalaenoptilus nuttalli

June 11 2 mi SE Beegum, 1650 ft., Tehama Co., Calif.

One heard late in the evening and during the night from Adenostoma-covered slope to the south of camp.

Peterson
1943

Chaetura vauxii

June 16-17 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

One noted on each day flying about open oak-pine woods.

June 18-22 ^{Swifts} visited the same area about everyday; usually in mid-afternoon. On the 22nd, three individuals were seen.

Pitelka
1943

Calypte anna.

June 15 2 mi SE Beegun, 1650 ft, Tehama Co., Calif.

One male heard singing from a relatively dense stand of digger pine, blue oak, and manzanita near the base of the south slope, just east of the gate to the Forest Service Road. This bird was heard both when I was going up the Forest Service road and when I returned, and was apparently an established male.

Another male was observed flying over an area of Adenostoma. During the course of his flight, ^{several rounds of} the characteristic grating song were given.

Pittella
1940

Stellula calliope

June 20 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Two hummers observed chasing about a dogwood-rose thicket in Duncan Gulch. One displayed, diving and giving the same note characteristic of this species.

June 21. Male apparently established at a post on the upper, dead limbs of a choke-cherry about 12 feet high. The post overlooked a thicket of Cornus and Rosa, similar to that in which this species was observed yesterday. This bird was taken.

June 23. Another male Calliope Hummingbird was found established at the identical post.

June 25 1 mi W Hyampson, 1200 ft., Trinity Co., Calif.

Muller took a male Calliope Hummer.

Peterson
1943

Megasceryle alcyon

June 16

2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

One noted flying along Hayfork Creek.
(Seen regularly through the 23rd.)

Patelka
1943

Colaptes cafer

June 12 2 mi SE Beegun, 1650 ft., Tehama Co., Calif.

Two or three ^{were} seen on higher slopes to the north of camp. They occurred in heavier stands of digger pine and oak growing on local flats where the trees were relatively larger than those on the slopes.

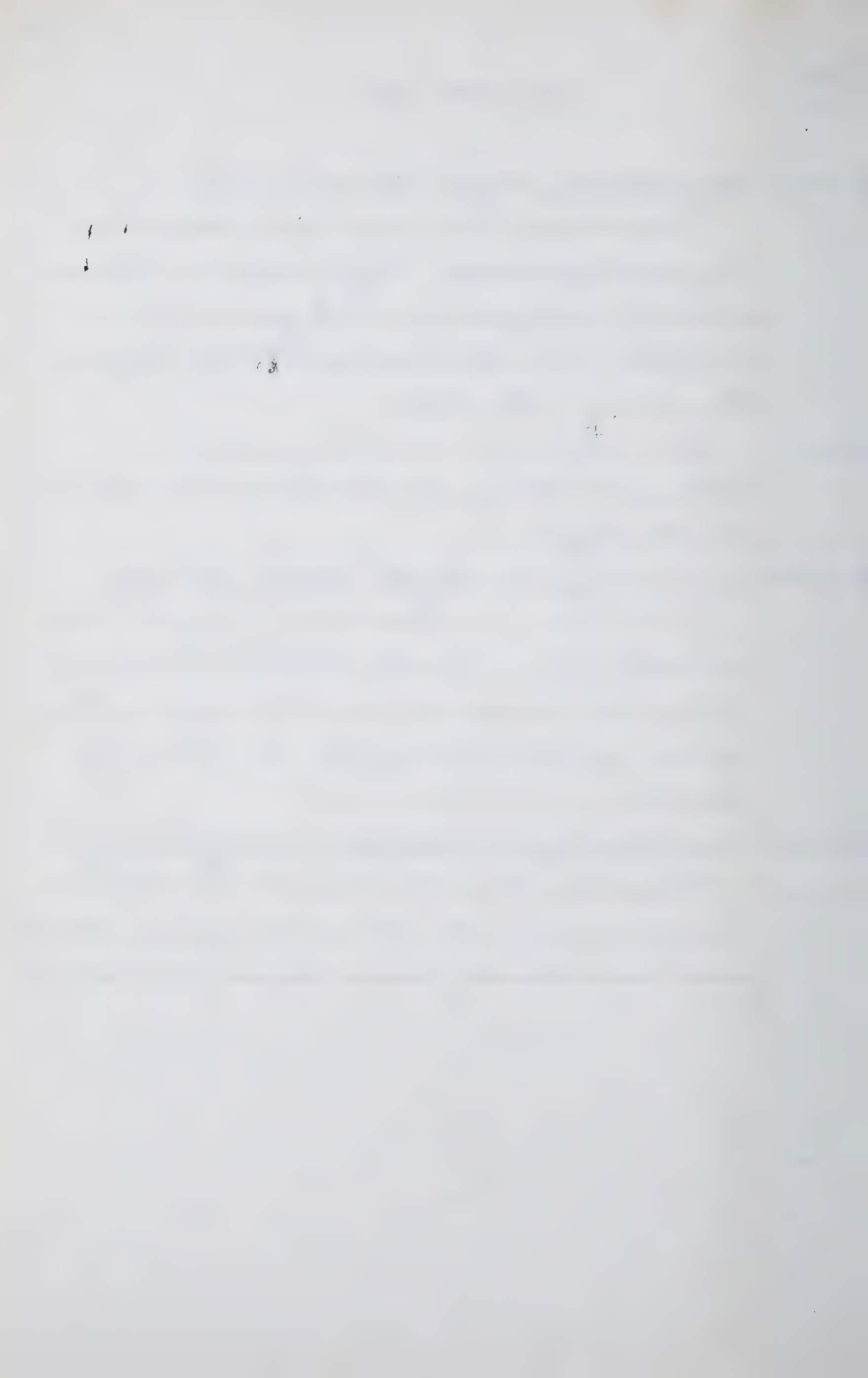
June 14. Similarly, Flickers occurred in better stands of woodland on the south slope.

June 16/18 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Not common. Observed in pine oak woodland in fairly continuous stands as well as in the vicinity of openings and along the borders of pastures or fields.

June 25-26 1 mi W Hyampson, 1200 ft., Trinity Co., Calif.

Occasional individuals heard ⁱⁿ or seen moving over mixed coniferous-deciduous forest on a south-facing slope above camp.



Pitelka
1943

Ceophœus pillatus

June 22 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Drummings apparently of this species noted on the bark of a large Douglas fir in the fir-pine-oak forest on the north-facing slope along Hayfork Creek. (Either on the 20th or 21st, we heard one ^{at camp} calling from this ^{same} slope.)

June 24 1 mi W Hyampom, 1200 ft., Trinity Co., Calif.

Muller reports hearing one.

Pitelka
1943.

Balanosphyra formicivora

June 13 2 mi SE Beegun, 1650 ft., Tehama Co., Calif.

One noted in a N-NW facing draw rather densely vegetated with digger pine, oak, and tall chaparral. Resculus californicus was especially prominent here, indicating a moister situation.

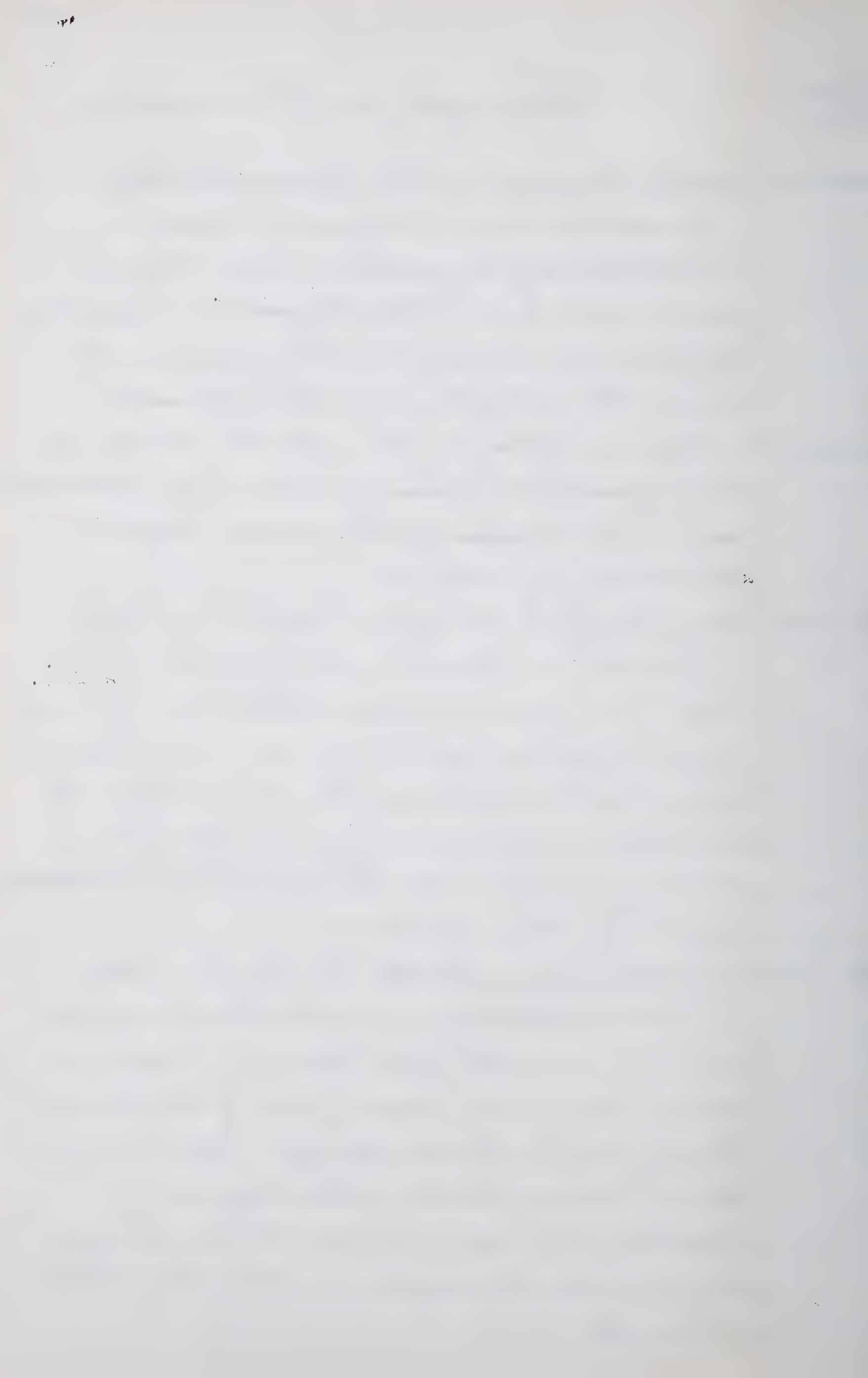
June 14 Again noted on the south side in a comparatively heavy stand of oak and pine. One digger pine was used for storage of acorns.

June 20. 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Several individuals (represent at least three pairs) were observed in stands of open digger and yellow pine, and Garry and black oaks along the east slope of lower Duncan Gulch. Several tall dead stubs of yellow pines ^{showed numerous} ~~were~~ excavations made by this species.

June 25-26 1 mi W Hyampom, 1200 ft., Trinity Co., Calif.

Present chiefly in yellow and digger pines in mixed open forest of oaks and pines along the lower part of the south-facing slope above camp. One observed also in ^a cottonwood within a grove of tall cottonwoods and willows along one of the cobble washes on the flat south of camp.



Patelka
1943

Sphyrapicus varius

June 16 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

One adult flew by camp during the afternoon. Earlier in the day I noted old sapsucker drillings in a garry oak.

June 17. Sapsucker again observed today leaving poplar-willow growth along the north edge of Hayfork Creek. Shortly afterward I found fresh drilling in a poplar.

June 19 Hayfork Valley, 4500-5000 ft., Trinity Co., Calif.

Two noted in yellow pine - Douglas fir.

Petelka
1943

Dryobates villosus

June 12 2 mi SE Begum, 1650 ft., Tehama Co., Calif.

One was present in the blue oak - digger pine to the east and south of camp. I did not observe any on the ^{slopes and ridges} north of camp.

June ¹³⁻15 Only occasional individuals noted on the north slope.

June 16-18 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Occasional individuals noted in the pine-oak open woodland in the vicinity of camp.

June 19 Hayfork Valley, 4000 - 5500 ft., Trinity Co., Calif.

Two individuals observed, the first in yellow pine - Black oak, the second in yellow pine - Douglas fir.

June 25 1 mi W Hyampson, 1200 ft., Trinity Co., Calif.

One observed or heard several times during the day as it moved about in the open forest of oak - pine - fir on the south-facing slope above camp.

June 26 Family group of well-grown young observed feeding in ^{near the base of the south-facing slope} garry oaks, this morning.

Pitecka
1943

Oryzobates pubescens

64

June 15 2 mi SE Beegun, 1650 ft., Tehama Co., Calif.

One female taken by Muller in pine-oak woodland on the valley flat. Probably a stray.

June 15-18 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Occasional individuals noted along Big Creek in streamside thickets.

A stray was taken in camp (pine-oak woodland) on the 18th.

June 25 1 mi W Hyampson, 1200 ft., Trinity Co., Calif.

Fairly common in the open oak woodland along the base of a south-facing slope above camp. One adult was ^{observed} foraging with a well-grown juvenal bird.

J

Pitelka
1943

Dryobates nuttalli

June 12 2 mi SE Beegun, 1650 ft., Tehama Co., Calif.

Fairly common in the digger pines and blue oak. Pairs are spaced regularly, and individual pairs are usually centered in small groves which include several large oaks and digger pines. Individuals have been observed feeding on both blue oak and digger pine bark. The species has been noted on the valley flat and upward on the north slope.

June 13-15 Similarly distributed on the north slope.

Peterson
1943

Tyrannus verticalis

June 13-15 2 mi SE Beegun, 1650 ft., Tehama Co., Calif.

One pair was established in a comparatively open stand of pine oak on the valley flat. Some attention was paid to the territory (rather feeding and activity range, since no actual encounters were noted) of the kingbirds in relation to those of several pairs of flycatchers (*Myiarchus*) immediately neighboring. The areas of kingbirds and flycatchers were exclusive, and I suspect that probably were observations to be made, the two species would be found hostile — at least under these circumstances. On one occasion (June 15), one kingbird fed on a slope just above camp, coming to the ground and picking insects. Here, the kingbird was feeding on an area ^{included} ~~frequently~~ in the home area of one of the Ash-throats. No encounter was observed. But the kingbird remained only briefly and was silent during his foraging. On the kingbird home area, their calls were heard regularly.

June 24 1 mi W Hyampson, 1200 ft., Trinity Co., Calif.

Two pairs established in a grove of cottonwoods and willows, surrounded by patches of willow thickets, along cobble

Patelka
1943

Tyrannus verticalis

June 24 16 mi W Hyampom, 1200 ft., Trinity Co., Calif.

washes near the South Fork. Between the low washes, there are areas of grassy flats which border also on the ^{the} grove and thickets occupied by the kingbirds. They apparently prefer the tall, open, partially dead cottonwoods. From high perches there, they moved out over the grassy flats to forage.

The two pairs mentioned earlier occupied areas adjoining each other. At one time during my observations, a member of one pair flew onto a high dead limb in the area of the neighboring pair. One adult of the second pair chased the intruder and during the ^{scuffle and} chase was joined by the other adult. Both birds then chased the intruder, who withdrew to his own area where he perched in a cottonwood along with his (her?) mate nearby.

Pittella
1943

Myiarchus cinerascens

June 12 2 mi SE Beegun, 1650 ft., Tehama Co., Calif.

Common in the blue-oak and digger pine. Pairs are regularly spaced throughout the pine-oak woodland at ^{intervals} ~~distances~~ of about 250-300 feet. They call and move about frequently, and territorial encounters are apparently numerous. Nesting sites for this species are abundant, as most of the larger oaks, dead or partly living, have cavities. This species was found on the slopes north of camp as well as on the valley flat, though, of course, ~~over~~ the former area, it was less frequent because of limited suitable habitat.

June 13-15 Distributed generally in the woodland of the south slope, but most abundant on the valley flat.
2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

June 16-20. Regularly present and fairly common in the dryer, open stands of yellow pine, gray oak, and black oak, as, for example, along Duncan Gulch and on the upland west of Big Creek (opposite Big Creek Ranch). The species is not present, however, as abundantly as it was at Beegun.

June 24-26 1 mi W Hyampom, 1200 ft., Trinity Co., Calif.
Fairly common. Present chiefly about poplar and willow groves on the Hyampom flat. Also present in open woodland, chiefly gray oak, near the base of a south-facing slope above camp.

Peterson
1943

Sayornis nigricans

69

June 16 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

2 pairs established along the north side of Hayfork Creek over a distance of about 400 ft. south of camp.

An Ash-throat established in a stand of scattered pines and oaks about placer diggings to the north of one of the pairs of Black Phoebe, was observed to chase a Black Phoebe as it ventured (or wandered) into the home area of the Ash-throat. Following the chase, the Black Phoebe remained apparently within its own area, calling intermittently.

June 24 1 mi W Hyampson, 1200 ft., Trinity Co., Calif.

One observed foraging about willow thickets in the vicinity of ponds in cobble washes south of camp.

Pitelka
1943

Empidonax traillii

June 14 2 mi SE Beegun, 1650 ft., Tehama Co., Calif.

One taken along an edge between oak-pine woodland and chaparral. It was foraging generally over the vicinity, uttering only the characteristic *Empidonax* call-note. Apparently an ~~unestablished~~ bird.

June 16-18. 3 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Common in streamborder willow thickets about ponds in the placer-digging area along Hayfork Creek; also in similar habitat along lower Big Creek.

June 25 1 mi W Hagaman, 1200 ft., Trinity Co., Calif.

Two separate males heard giving their song-note — one in willow thickets about temporary ponds south of camp — another in a similar willow thicket at the base of the south-facing slope, west of camp.

71
Pitelka
1943

Empidonax hammondi

June 19 Hayfork Valley, Trinity Co., Calif.

An Empidonax flycatcher, probably
of this species, noted in dense fir forest
around 5500 ft.

Patelka
1943

Empidonax wrighti

June 19 Hayfork Valley, Trinity Co., Calif.

Noted in brushy thickets about opening
in the ^{mixed} coniferous-deciduous or pure
coniferous forest and also ~~along~~ ⁱⁿ stream
thickets and along the edge between
coniferous forest and chaparral at higher
elevations. Ranged from approximately
4500 ft. upward.

Pitelka
1943

Eupidonax difficilis

- June 21 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.
Present in a relatively dense, ^{shaded} stand of yellow pines and Garry Oak along the west slope of Duncan Gulch.
- June 22 One male observed and heard singing regularly in Douglas fir-yellow pine-oak forest near the base of a north-facing slope along Hayfork Creek.
- June 24-26 1 mi W Hayfork, 2000 ft., Trinity Co., Calif.

Pitelka
1943

Myiochanes richardsoni

June 13-15 2 mi SE Beegun, 1650 ft., Tehama Co., Calif.

Several heard in the black oak-pine stand on the upper south slope.

June 16-18 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Common in the pine-oak woodland.

Appears to prefer fairly open, mixed forest of conifers and deciduous trees. None have been observed in the denser stands of young pines. A nest was found in an alder tree along Big Creek (June 18). It was placed about 30 feet from the ground and ^{was} saddled ^{on} a limb about 5 feet from the trunk. One of the pair was on the nest at the time I observed it.

June 25-26 1 mi W Hyampson, 1200 ft., Trinity Co., Calif.

Generally distributed through the mixed coniferous-deciduous forest on the south-facing slope above camp. Appears to be more abundant in relatively open forest or woodland. Abundant in the open gray oak woodland along the base of the slope. Noted also in groves of large cottonwood and willows on the open flat southwest of camp.



Pitelka
1943

Nuttallornis borealis

June 14 2 mi SE Beegun, 1650 ft, Tehama Co., Calif.

One heard calling from an area of tall chaparral and digger pines on the south slope. This bird moved about over a fairly extensive area, and was probably a migrant.

June 19 Hayfork Valley, ⁻⁶²⁰⁰ 4500 ft., Trinity Co., Calif.

Observed on Hayfork Valley over an altitudinal range extending from approximately 4500 feet to the top of the mountain.

Pitelka, 1943

Tachycineta thalassina

June 12-15 2 mi SE Beegun, 1650 ft., Tehama Co., Calif.

Several pairs present along the valley flat between our camp and the main ridge to the west.

June 16-18 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Several present over the area of placer diggings and ponds to the south of camp. On the 18th, a family group including 3 young was observed at the same site.

June 25-26 1 mi W Hyampson, 1200 ft., Trinity Co., Calif.

Several seen frequently over the Hyampson flat southwest of camp in the vicinity of the South Fork, and groves of cottonwoods and willows scattered along cobble washes.

One male was observed giving the characteristic grating song notes from a perch atop a dead willow stub.

Pitelka
1943

Helgiodoplerus ruficollis

June 21 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Several present about ponds in the area of placer digging along Hayfork Creek near camp.

Peterson
1943

Herundo erythrogaster

June 15 Platina, Shasta Co., Calif.

One noted flying about an open barnyard as we stopped here.

June 17 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

A pair noted flying over camp. None have been found established anywhere nearby.

June 20 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

One pair observed flying over the open area south of camp and also along the stream running into Duncan Gulch east of camp.

Petelka
1943

Petrochelidon albifrons

June 11 Beegum, Shasta Co., Calif.

Several noted flying along "Main Street" as we "investigated" the town.

June 12 2 mi SW Beegum, 1650 ft., Tehama Co., Calif

One individual noted flying over camp. It was possibly a far-ranging bird from the group at Beegum. (None were noted about our collecting locality subsequently.)

June 21 2 mi E Hayfork, 2400 ft., Trinity Co., Calif

Muller reports this species foraging over ponds in the ^{area of} placer diggings south of camp along with Herundo, Tachyaneta, and Stelgidopteryx.

Peterson
1943

Cyanocitta stelleri

June 16 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Heard from the forest of Douglas fir -
yellow pine ^{and oak} on the north facing slope of
the Hayfork Creek valley. Just opposite camp.

June 19. Hayfork Valley, 5200-6262, Trinity Co., Calif.

Not common in the coniferous forest
of this mountain, but ^{the species was} noted at the
lower altitude as well as near the summit.

June 22 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

One of several jays present taken in
forest along south slope of Hayfork Creek
valley (see note under June 16).

Pittman
1943

Aphelocoma californica

June 12 2 mi SE Beegun, 1650 ft., Tehama Co., Calif.

One pair was observed in blue oak - digger pine on the valley flat west of camp. This pair was later observed to range immediately to the north of our camp and northeastward onto *Adenostoma*-covered slopes.

A second pair, with well-grown young still being fed, was observed in oak-pine - ^{north of camp} chaparral mixture on the ridge, separating the two drainages (see journal).

June 13-15 Occasional pairs met in the woodland of the south slope. No family groups were observed there. The species is not common.

June 20. 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

In the last several days of hunting in this area, this species has been found only in open pine-oak woodland along the east side of Duncan Gulch. One pair was present in a similar habitat just east of camp. ^{Of this pair,} an adult male (#545) and juvenile (#544), perhaps 5-6 days out of the nest, were taken.

June 21. An adult and juvenile (#'s 557 and 554, resp.) were taken in a stand of ^{somewhat} open *Caonothus* and *mangamta* with scattered oaks and pines.

Pitelka
1943

Aphelocoma californica

June 25-26 / mi W Hyampom, 1200 ft., Trinity Co., Calif.

Occasional individuals heard in the pine-fir-oak-chaparral complex on the south-facing slope above camp. One was noted wandering down into the cottonwood-willow groves of the Hyampom flat.

Pitelka
1943

Penthestes gambeli

June 18 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Adult with well-grown young moving about open Garry oak-black oak-yellow pine woods just east of camp. This species has not been noted elsewhere in the vicinity of camp nor along ^{the lower part of} Big Creek.

June ¹⁹~~20~~ Hayfork Valley, 4500 ft., Trinity Co., Calif.

Pair observed carrying food to a nest in a cavity within a sugar pine. The entrance was 6 feet above the ^{barewood} ground. It was ^{a vertical slit between living bark and a patch of} formed probably as a result of a burn. Both members of the pair brought food.

Noted from about 3500 to 5500 ft.

Patelka
1943

Pentstemon rufescens

84

June 19 Hayfork Dally, 3200-4000 ft., Trinity Co., Calif.

Observed in ^{dense} Douglas fir forest
of canyon bottoms, pockets and draws
between elevations given above. Noted
to range up the slopes into more
open forest of mixed fir, yellow pine,
and oaks. In the latter situations,
this species occurs with *P. gambeli*.

June 22 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Present in Douglas fir-yellow pine-oak
forest on north-facing slope along Hayfork
Creek.

June 26 1 mi W Hyampson, 1200 ft., Trinity Co., Calif.

One noted moving along a cool draw
forested with pine-fir ^{midmont} and oak on the
south-facing slope west of camp.

Pitelka
1943

Baeolophus inornatus

85

June 12 2 mi SE Beegun, 1650 ft., Tehama Co., Calif.

Common in the blue oak-digger pine growths. Found on the valley flat and upward along the north slope. Small family groups occurred regularly. One male was heard in song in the north ridge.

June 13-15 Similarly common on the south slope.

June 25 1 mi W Hyampson, 1200 ft., Trinity Co., Calif.

Adult male, ~~was~~ taken in open Gambel oak woodland near the base of the south-facing slope west of camp. In the vicinity were willows, ashes, red-bud, manzanita, and grape thickets.

June 26. Two juveniles observed foraging in oaks, willows, and ash. Miller took one yesterday.

Pitelka
1943

Psittiparus minimus

86

June 12 2 mi SE Beegun, 1650 ft., Tehama Co., Calif.

Observed in both the Adenostoma chaparral and the blue-oak-digger pine. The species appears to occur most frequently where there are groups of scrubby oaks interspersed with or along the edge of Adenostoma. I was surprised to find only lone adults or pairs during my hunting over the slope north of camp.

Later in the day, Muller and I observed a family group ~~with~~ moving about and feeding in the scrubby oak and manzanita just north of camp.

One female (#480) was taken in a mixture of Adenostoma and oak up on the north slope. Her ovaries showed several follicles.

June 13-15 Several family groups observed on the south side. Distributed generally through the ^{blue-oak} woodland, especially in the vicinity of neighboring tall chaparrals or near scrubby oaks.

June 16-18. 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Not common. The species appears to prefer areas of open chaparral with occasional, taller, usually young oak trees. It avoids the coniferous trees or the denser stands of mixed conifers and deciduous trees.



Pitcher
1943

Psaltriparus minimus

June 19 Hayfork Valley, 5500-6000, Trinity Co., Calif.

A pair noted between 5500 and 6000 ft.
in an ^{open} area of brush dominated by Prunus.

June 25 1 mi W Hyampson, 1200 ft., Trinity Co., Calif.

Not common. Observed on the
south-facing slope above the level of open
woodland in areas where forest with
deciduous trees (gum and golden oaks)
bordered on or is interspersed with various
chaparral species.

Pitelka
1943

Sitta carolinensis

88

June 12 2 mi SE Beegun, 1650 ft., Tehama Co., Calif.

Occurs in the blue oak - digger pine.

This species is not common. It is, for instance, less numerous than *Dryobates nuttalli*, but appears to occur regularly. During my morning hunting, ~~what~~ hatches were observed only four or five times over a distance of about $\frac{1}{2}$ mile. One family group was seen. Occurs on valley flat and north ^{slope}.

June 13-15. Observed regularly on the south slope, also, but the species is not common.

June 16-18 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.
and 20-21

Fairly common in the open pine-oak woodland along Duncan Gulch. Noted also along Big Creek and near camp in a similar habitat.

June 25-26 1 mi W Hyampom, 1200 ft., Trinity Co., Calif.

Fairly common in the mixed pine-fir-oak forest on the south-facing slope above camp. Observed foraging in yellow and lumber pines and in Garry oak.

Patelka
1943

Setta canadensis

89

June 19

Hayfork Valley, Trinity Co., Calif.

Noted at all elevations, but most abundant in the mixed fir-pine-oak forest below 5000 ft.

June 22

2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Present in fir-pine-oak forest on north-facing slope along Hayfork Creek.

Stelka
1943

Certhia familiaris

June 19 Hayfork Valley, Trinity Co., Calif.

Noted only in mixed fir-pine-oak forest between 3500 and 4500 feet. Not common.

June 22 2 mi E Hayfork, 2400 ft, Trinity Co., Calif.

An ~~parent~~ adult with three well-grown young out of the nest observed in fir-pine-oak forest ~~along~~ the north-facing slope along Hayfork Creek.

Peteelka
1943

Chamaea fasciata

91

June 12 2 mi SE Beegun, 1650 feet, Tehama Co., Calif.

Common in the Adenostoma chaparral. Several pairs were heard in song.

June 13-15 Similarly common in chaparral of the south side. Well-grown young were noted.

June 19 Hayfork Bully, 5700 ft., Trinity Co., Calif.

A Wren-tit was heard from an area of chaparral on the south-facing slope at this high altitude! Miller heard two singing on our return trip from the top.

June 20-21 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Not common, but occurring regularly over the area of chaparral on the west-facing slope of Duncan Gulch.

June 22 Two birds of a pair heard singing in open Ceanothus-manzanita near camp. These were apparently wanderers. Earlier in the afternoon we had heard wren-tits to the east of camp and commented at the time that they seemed close — therefore away from their typical habitat of more or less dense chaparral on the east slope of Duncan Gulch.

June 26 1 mi W Hyampom, 1200 ft., Trinity Co., Calif.

Heard from a dense chaparral area on the south-facing slope several hundred feet above the base.

Patelka
1943

Troglodytes aedon.

92

June 12-15 2 mi SE Beegun, 1650 ft., Tehama Co., Calif.

Several pairs were present in the pine-oak woodland on the valley flat to the west of camp. Also present in the black oak stand on the upper south slope.

June 16/18 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Muller reports one pair present ^{just east of camp} about a large oak near willow thickets. This is the only record thus far.

June 22 I observed them there. Both members of the pair called alarmedly. Apparently they have young in a cavity in the oak.

June 26 1 mi W Hyampom, 1200 ft., Trinity Co., Calif.

One heard singing near a ranch house at the west end of Hyampom flat. A group of young were observed in a Rosa-Rubra thicket in the vicinity of cottonwood - willow groves on the flat.

Pitelka
1943

Thryomanes bewickii

93

June 12 2 mi SE Beegun, 1650 ft., Tehama Co., Calif.

Observed only on the slope to the north of camp in areas where Adenostoma and scrubby blue oaks were mixed and also along the "edge" between the Adenostoma chaparral and blue oak-digger pine woodland.

June 13-15 Similarly distributed on the south side. The species appears to prefer a chaparral with an admixture of scattered tall trees. Fully-grown young were noted.

June 16-18; 20-21. 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Fairly common in open oak-pine woods (oak predominant) with scattered scrub of manzanita, scrub oak, and Ceanothus. Well-grown young noted frequently during hunting.

June 25 1 mi W Hyampson, 1200 ft., Trinity Co., Calif.

Noted on the south-facing slope in areas of chaparral and also on the flat in thickets of dead brush, willows, Rosa, and Rhus in the vicinity of cottonwood-willow groves.

Patelka
1943

Salpinctes obsoletus

June 19 Hayfork Dally, 6100 ft., Trinity Co., Calif.

One heard singing on a large rocky outcrop in a chaparral area on the south face of the mountain.

Pitelka
1943

Toxostoma redivivum

95

June 12 2 mi SE Beegun, 1650 feet, Tehama Co., Calif.

Seen today only on the north slope. This species appears to prefer areas of mixed Adenostoma and scrubby oak. One male in song was followed near the north ridge. It ranged over an area of several acres.

June 13-15. Several, ^{noted} singing in areas of extensive tall chaparral or well-developed Adenostoma on the south side.

June 20-21 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

One heard singing from the higher, chaparral-covered west slope of Duncan Creek. The species has not been noted elsewhere in the region.

Peterson
1943

Turdus migratorius

96

June 16-21 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Fairly common in the open pine-oak woodland, especially along the borders of pasture or grazing land cleared, in part at least, of dense underbrush. Well grown young were noted in Duncan Gulch on the 20th.

June 19 Hayfork Bully, 4000-6262 ft., Trinity Co., Calif.

One noted in the yellow pine - black oak forest at 4000 ft. A pair was observed about an opening in the red fir forest near the summit.

June 25-26 1 mi W Hyampson, 1200 ft., Trinity Co., Calif.

Not common. Present chiefly in open gully oak woodland near the base of the south-facing slope. Well-grown young out of the nest were observed on the 25th.

Pitelka
1943

Hyllocichla guttata

June 19 Hayfork Valley, Trinity Co., Calif.

Noted between 4000 and 6000 ft. (and probably lower) in mixed coniferous-deciduous forest as well as pure coniferous forest. This species appears to prefer thickets of young firs scattered along a slope covered with a canopy forest.

Pitelka
1943

Sialia mexicana.

98

June 12 2 mi SE Beegun, 1650 feet, Tehama Co., Calif.

Observed chiefly on the valley flat in the vicinity of camp. Several pairs of adults were noted, as well as one ^{of adults with at least two} family group of well-grown young. A few bluebirds were seen in groves of larger oaks and pines on the north slope.

June 13-15. Several additional family groups were observed on the valley flat. Noted occasionally on the south slope. Common on the valley flat.

June 16-21 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Not common. Present about open, grazed woodlands, and along the borders of pasture and fields in similar open woodland.

~~June 25 1 mi W Hayfork, 1500 ft., Trinity Co., Calif.~~

Pitelka
1943

Poliaptila caerulea.

June 12 2 mi SE Beegun, 1650 feet, Tehama Co., Calif.

Fairly common on the north slope in the blue oak - manzanita and also in mixtures of scrub oak and chamise (*Adenostoma*). Pairs or singing males were met regularly. The species was not noted on the valley flat.

June 13-15 Similarly distributed on the south slope, though perhaps not as abundant. The species was also observed in the black oak stand of the upper south slope (June 13).

June 16-21 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Fairly common in the open stands of *Quercus* over a flat west of camp, as well as on slopes along Big Creek and Duncan Gulch. They appear to prefer the open areas of chaparral in which there is only an occasional taller deciduous tree here and there. They avoid the conifers.

On the 16th, a family group of three young, perhaps two or three days out of the nest, were observed. The male was taken (#513).

June 25-26 1 mi W Hayfork, 1200 ft., Trinity Co., Calif.

Occasional individuals noted on the mixed oak - pine - madrone forest with scattered shrubs of manzanita, *Quercus*, *Rhamnus* and *Rhus*. Apparently uncommon.

Pitelka
1943

Regulus satrapa

June 19 Hayfork Valley, Trinity Co., Calif.

Noted from 4000 ft upward in mixed coniferous-deciduous forest as well as pure coniferous forest.

June 22 2 mi E Hayfork, 2400 ft, Trinity Co., Calif.

Present in firs of a fir-pine-oak forest on a north facing slope along Hayfork Creek. Heard singing regularly.

Pitelka
1943

Vireo huttoni

June 12-15 2 mi SE Beegun, 1650 ft., Tehama Co., Calif.

Several pairs present in the oak-pine woodland on the valley flat and at the base of the south slope. In all instances, the woodland was comparatively dense, including some scrub oak, manzanita, or rather tall shrubs in addition to the taller trees.

June 25 1 mi W Hyampson, 1200 ft., Trinity Co., Calif.

Not common, but apparently occurs regularly in the mixed coniferous-deciduous forest of the south-facing slope above camp. Noted chiefly in Garry oaks.

Petelka
1943.

Vireo solitarius

102

June 12-14 2 mi SE Bequm, 1650 ft., Tehama Co., Calif.

Miller reports several pairs of this species present in the black oaks on the upper south slope.

June 16-18 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Common in stands of taller, mixed yellow pine, black oak, and Garry oak.

June 19 Hayfork Valley, Trinity Co., Calif.

Noted in mixed deciduous and coniferous forest or in pure coniferous forest up to approximately 5500 ft.

June 25 1 mi W Hyampson, 1200 ft., Trinity Co., Calif.

Common throughout the mixed forest of conifers and deciduous trees on the south-facing slope. Probably the most abundant species locally. Males in song.



Peterson
1943

Vireo gilvus

123

June 16/8 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Regularly present and fairly common in willows and poplars along streams (e.g., Hayfork Creek, stream in Duncan Gulch); also ranging into oaks and occasionally conifers in the vicinity of streams.

June 19 Hayfork Valley, 5300 ft., Trinity Co., Calif.

Warbling Vireos singing in conifers (white fir and incense cedar) in the vicinity of an opening cut by a small stream along which there was a deciduous growth of Cornus, Corylus, and Acer.

June 24 1 mi W Hyampson, 1200 ft., Trinity Co., Calif.

Common in open Garry oak woodland and ~~an~~ ashes, willows, and cottonwoods at the base of the slope.

Pitelka
1943

Vermivora celata

June 13-14 2 mi SE Beegun, 1650 ft., Tehama Co., Calif.

Heard singing at three different places on the south slope. In each instance, the bird was present in tall chaparral of a north-facing draw.

June 19 Hayfork Valley 5500-5700 ft., Trinity Co., Calif.

Several heard in dense chaparral on east-facing slope at above elevation. Associates included Cassella, Oberholseria, ^{and} Chamaea.

Pitelka
1943

Vermivora ruficapilla

105

June 16-18 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Present in fairly dense woodland of mixed yellow pine, black oak, and Garry oak with scattered patches of underbrush, chiefly manzanita and ~~Arceuthobium~~ *Arceuthobium*. Noted along Duncan Gulch as well as Big Creek. Fairly common.

Along Big Creek, the species occurs with *Dendroica nagesse* regularly. Adults of both species were observed feeding in shrubs with no sign of competition or intolerance.

June 19 Hayfork Valley, Trinity Co., Calif.

Noted from 3000 ft all the way to 6000 feet, but most common in the mixed deciduous and coniferous forest below 5000 feet.

June 26 1 mi E Hyampom, 1200 ft., Trinity Co., Calif.

One adult with three well-grown young observed moving about on a slope covered with Golden and Garry oak, pines, and firs with a variety of undershrubs.

Petelka
1943

Dendroica aestiva

106

June 16-18 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Common in willow thickets, and ranging into poplars and oaks, along Hayfork Creek and the vicinity of small ponds in the area of placer diggings near Big Creek. Also along Big Creek in similar habitat. Young observed out of the nest on the 16th.

June 24-26 1 mi W Hyampson, 1200 ft., Trinity Co., Calif.

Comm in willow thickets and cottonwood willow groves along the base of the south-facing slope, west of camp, and especially on the flat southwest of camp. A nest found in an ash, placed 12 feet above the ground, on a side limb of one of the main lower limbs, about 15 feet from the trunk. There was no under the nest. The nest contained young, and both adults were bringing food.

Peterson
1943

Dendroica auduboni

107

June 16-18 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Common in open, tall stands of mixed pine and oak throughout the areas examined in the vicinity of camp. On the 16th, an adult male was observed foraging near camp and carrying food to two young out of the nest. On the 17th, a female with one fledgling was noted about camp.

June 19 Hayfork Valley, Trinity Co., Calif.

Noted in mixed deciduous-coniferous forest or pure coniferous forest at all elevations (3200 - 6200 ft.).

June 20 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Female ^{feeding} ~~with~~ several fledglings was taken for the purpose of observing the condition of the ovary as regards the possibility of a second brood. The largest ovum was only about $\frac{1}{2}$ mm. in diameter. This particular female, at least, was not prepared for a second brood. The males have not been singing as regularly nor do they seem to have been stationed as definitely as male Black-throated Gray Warblers.

Pitelka
1943

Dendroica nigrescens

708

June 16-18 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Occurs in mixed pine-oak woodland of moderate height. It appears to prefer a predominance of deciduous trees together with scattered underbrush (*Ceanothus* and *manzanita*). Most abundant ^{dry, woodland-covered} on low ridges west of Big Creek.

June 18 On one of the low ridges west of Big Creek, mentioned above, I stood in one spot and heard five different males singing from various, separate parts of the woodland about me. Earlier, I had observed several ^{different} adults feeding young out of the nest, and it occurred to me that the continued singing of the males might mean that these birds were preparing for a second brood. I took one female feeding a well-grown fledgling (#535). Her ovary showed three enlarged, yolkier ova, one 4 mm. in diameter and ^{each} two 2 mm. in diameter. This appears to confirm the probability of two-broodedness in this species at least in this region.

June 25-26 1 mi W Hayfork, 1200 ft., Trinity Co., Calif.

Occurs in ^{fairly open} mixed pine-fir-oak forest or juniper oak woodland, either with scattered underbrush. On the 25th, a female, ^{was observed} feeding a well-grown fledgling.

Peterson
1943.

Dendroica occidentalis

409

June 19 Hayfork Valley, Trinity Co., Calif.

Noted at all elevations in either mixed deciduous-coniferous forest or pure coniferous forest. Most abundant in the mixed forest below 5000 ft. (3200-5000 ft.).

June 22 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Present in a fir-pine-oak forest on a north-facing slope along Hayfork Creek.



Pitelka
1943

Oporornis tolmiei

June 18 2 mi E Hayfork, 2900 ft., Trinity Co., Calif.

A male observed in a dense thicket of Ribes, Rosa, and Cornus in a moist pocket ^{at the base of} the west-facing slope along Big Creek.

June 19 Hayfork Valley, Trinity Co., Calif.

Noted in thickets of Quercus, Cornus, Salix and manzanita from about 5000 ft. upward. Not common.

One ^{male} observed performing a flight-song. The sounds included the usual song-notes plus additional notes interspersed so that the total effect was one of more or less twittering. The bird rose and fluttered its wings during the song, descending as he sang; then he resumed normal flight and dived into the Chaparral. The flight song began about 40 feet above the ground. It reminded me of ^a similar flight-song, as regard the flight itself, in Geothlypis trichas.

Pitcher
1940

Asteria verreauxi

June 16-18 2 mi. Hayfork, 2400 ft., Trinity Co., Calif.

About four ^{or five} pairs present in dense willow thickets south of camp along a tributary leading into Duncan Gulch. Also noted along Hayfork Creek just west of the Hayfork Creek - Big Creek junction and along lower Big Creek. In all cases in dense willow thickets.

While the headquarters of these birds appear to be willow thickets, they will range out into open brush of Ceanothus and manzanita bordering such thickets. Both males occupying territories near our camp have been observed ranging out into the brush. One of them performed the peculiar lilted flight together with song which may have significance as territorial announcement. Song heard regularly during the day, and fairly frequently during the night also.

June 24-26 1 mi. W Hyampson, 1200 ft., Trinity Co., Calif.

Common in the willow-ash-grape thickets along the base of the south-facing slope near camp and in willow thickets on the Hyampson flat southwest of camp.

Pitcher
1943

Sturnella neglecta.

June 12 2 mi SE Beegum, 1650 ft, Tehama Co., Calif.

One heard singing regularly from a fairly open area in the blue oak - digger pine on the valley flat, ^{South -} east of camp.

June 13. 1 mi SE Beegum, Tehama Co., Calif.

Meadowlarks were heard from an extensive open area on a valley flat. on the other side of the ridge separating our camping locality and its drainage from the drainage system of Beegum and vicinity.

June 16-18 2 mi E Hayfork, 2400 ft, Trinity Co., Calif.

Two individual males heard singing in two different open grassy areas near camp.

Petelka
1943

Agelaius phoeniceus

113

June 15

2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

A group of 2 males and 5 females appear established in the cattail growth of a small pond near Big Creek just north of the Hayfork Creek junction. As I observed them both males gave alarm notes, one from ~~the~~ dead limbs of on a yellow pine along the north border of the pond, the other from the top of a dead coneifer on the east side. Occasional circling flights were made ^{by each male} above the cattail growth, alarm notes being given during these flights as well as from the posts mentioned earlier.

June 16.

Two females and one male were taken from the group described above: Young red-wings out of the nest were present in the cattails. These came from at least two different nests as evidenced by their difference in size. One group of young was out of the nest no more than a day or so; the other appeared to have been fledged perhaps 5 days ago.

That ^{the} male Red-wings ^{be} may be bigamous seems fairly evident ^{from} by the sex ratio observed in this colony.

Peterson
1943

Agelaius phoeniceus.

June 17 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Four additional blackbirds were noted in the colony this morning. The newcomers included two males, one of which was taken. That these males were not established was clearly evident from their undemonstrative behavior, as contrasted to ^{the} behavior of the remaining established male. The unestablished blackbirds uttered only the characteristic red-wing black note. ^{On the other hand,} The established male performed hovering flights over the colony and gave his clear alarm note frequently.

One female was also taken. This specimen appears to be a first-year bird as it lacks the red tips on the shoulder feathers. Its ovary was inactive; the largest ovum being no larger than $\frac{1}{2}$ mm. It is, of course, not possible to say whether this female was one of the original 5 females in the colony or whether she was one of the newcomers.

June 18. Only one male and one female are present in the colony.

June 20. Miller reports that two additional males were present ^{with the remaining pair} in the cattail pond. These males behaved as unestablished birds, as described above.

Peterson
1943

Agelaius phoeniceus

June 22 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Remaining established pair taken.
Two additional males noted on the
20th were present, but they departed
as soon as the first shot went off.

June 23 No blackbirds about cat-tail pond.

Pitelka
1943

Icterus bullocki

#6

June 12 2 mi SE Beegum, 1650 feet, Tehama Co., Calif.

Several pairs established in the area of larger blue oaks on the valley flat in the vicinity of camp. Not noted on the north slope. (Not noted on the south slope either, June 13-15.)
2400 ft.

June 20-21 2 mi E Hayfork, Trinity Co., Calif.

An adult male ^{spent and} heard singing in an open juniper oak woodland along a draw on the east slope of Duncan Gulch.

June 25-26 1 mi W Hyampson, 1200 ft., Trinity Co., Calif.

Two pairs found established, ^{each} one of two cottonwoods separated by an open area of about 200 ft. Both pairs called alarmingly when I was near their respective tree, and were probably nesting in those same trees.

Pitelka
1943

Euphagus cyanocephalus

417

June 12 2 mi SE Beegum, 1650 feet, Tehama Co., Calif.

Several pairs are distributed along the course of the small stream passing by our camp and ~~running~~ ^{along} down the valley flat. They appear limited to the immediate vicinity of the stream, ~~as~~ as foraging is done only along the stream. There grasshoppers are abundant in the lush border vegetation and a variety of aquatic insects are present in the shallow stream water.

June 15 One family group of 3 ^{well-grown} young was observed flying along the Beegum road with two adults. Other adults were observed ^{along the stream edge} gathering food and over grassy areas to either side of the stream and carrying it to nests. One nest was located in the top of a digger pine. Black birds foraged most frequently along the stream edge, ^{wading} ~~wading~~ frequently and picking insects from the surface of the water. Grasshopper were apparently one of the chief items of food.

June 25-26 1 mi W Hyampson, 1200 ft., Trinity Co., Calif.

A family group including three young was observed about the cottonwood willow groves in the vicinity of temporary ponds on gravel washes southwest of camp.

Pitelka
1943

Molothrus ater

118

June 12-15. 2 mi SE Beegun, 1650 ft., Tehama Co., Calif.

Fairly common on the valley flat and along the bases of both north and south slopes. Occasional individuals noted on the higher parts of either slope.

On the valley flat males were observed following fairly definite, straight flight lines ^{parallel to the valley slopes} over distances of perhaps $\frac{1}{3}$ mile. The "beats" of several male cowbirds were noted to be placed in a similar manner. While each male may have such a flight line, these ^{beats} are apparently not entirely exclusive. Miller reports ^{two} males observed perched on top of one tree.

June 16-18 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Fairly common in areas of more or less cleared woodland and about the woodland surrounding large grass-covered openings. Several males noted performing their back-and-forth flights along established routes near camp and along Big Creek.

June 20-21 ~~Several~~ ^{Two} males similar observed in Duncan Gulch.

Pitelka
1943

Malothrus ater

June 25-26 1 mi W Hyampom, 1200 ft, Trinity Co., Calif.

Three different males and one female were noted in the vicinity of poplar-willow groves on the Hyampom flat southwest of camp. As noted on earlier occasions, males flew ^{back and forth} along more or less definite "beats." Two males were seen in the company of one female.



Pitelka
1943

Piranga ludoviciana

June 14-15 2 mi SE Beegun, 1650 ft., Tehama Co., Calif.

Lone males, apparently unestablished, noted on two different occasions on the upper south slope.

June 16-18, 20-21. 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Fairly common in the taller, denser stands of mixed pine-oak forest.

June 22. Noted similarly in Douglas fir - ^{yellow} pine - black and gray oak forest on the north facing slope along Hayfork Creek.

June 19 Hayfork Valley, Trinity Co., Calif.

Noted up to approximately 5500 ft., chiefly in forest of mixed conifers and deciduous trees.

June 25-26 1 mi W Hyampson, 1200 ft., Trinity Co., Calif.

Several singing males noted in mixed oak-pine-fir woodland along the south-facing slope above camp. Not common.

Patelka
1943

Hedymeles melanocephalus

June 13 2 mi SE Beegum, 1650 feet, Tehama Co., Calif.

One male, taken by Muller, was present in a stand of mixed pine-oak woodland and tall chaparral to the west of the Forest Service road about $\frac{1}{4}$ mile from the Beegum road. (This is the only record for the area.)

June 19 Hayfork Dally, Trinity Co., Calif.

Noted up to approximately 4500 ft. in mixed coniferous and deciduous forest.

June 16-18; 20-22. 2 mi E Hayfork, 2400 ft. Trinity Co., Calif.

Fairly common in stands of taller, mixed pine-oak forest. Young out of the nest no more than a day observed on the 18th.

June 25-26 1 mi W Hyampson, 1200 ft., Trinity Co., Calif.

Noted in fairly open woodland of Garry and Golden oak with some pine and fir on the south-facing slope above camp. More frequently seen than *Pranga ludoviciana*, but not common.



Pitelka
1943

Passerina amoena.

122

June 13-15 2 mi. SE Beegun, 1650 feet, Tehama Co., Calif.

Observed only on the higher parts of the south slope in the vicinity of an area of black oaks and of the borders of streams passing through this black oak area. ^{Specifically} they occurred in thickets of *Rhus*, grape (*Vitis*) and several other shrubs. A number of males were in song.

June ¹⁶⁻22 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Not particularly common, but regularly distributed along forest edge about grassy openings, cleared areas, or pastures. Noted along Hayfork Creek, Duncan Gulch, and Big Creek.

June 23. A nest, from which three young left as I approached it, was found in a *Symphoricarpos* shrub ^{2 feet from the ground} in a border thicket of *Cornus*, *Rosa*, and *Symphoricarpos* next to an open area of grass and placer diggings. The female called alarmingly nearby. The male was not present.

June 25-26 1 mi W Hyampom, 1200 ft., Trinity Co., Calif.

Common about shrub- and thicket-bordered openings along the ^{base and lower part of} south-facing slope above, camp.

Patelka
1943

Carpodacus purpureus

125

June 19-

Hayfork Valley, Trinity Co., Calif.

Noted from 4500 ft. to the summit in mixed coniferous and deciduous forest or in pure coniferous forest. Probably occurs below 4500 ft., also.

June 16-22

2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Fairly common in the taller, denser stands of mixed oak and pine. Noted also on the north-facing slope, along Hayfork Creek, forested with Douglas fir, yellow pine, and black oak.

June 25-26

1 mi W Hayfork, 1200 ft., Trinity Co., Calif.

Fairly common in the mixed pine-oak-fir forest on the south-facing slope above camp. A male noted feeding two well-grown young out of the nest on the June 26.

Pitelka
1943.

Carpodacus mexicanus.

724

June 12-15 2 mi SE Beegun, 1650 feet, Tehama Co., Calif.

Several pairs present on the valley flat in oak-pine woodland. Not noted elsewhere.

June 16-22 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Not common. Several pairs present in the vicinity of camp, chiefly about, ^{scattered} large oaks in cleared or disturbed areas. Noted on the 18th in mixed oak-yellow pine-digger pine woodland on dry low ridges west of lower Big Creek, where a male was observed bringing food to two well-grown fledglings.

June 25-26 1 mi W Hyampom, 1200 ft., Trinity Co., Calif.

Occasional in more open areas of oak-pine woodland, primarily *Quercus garryana*, on the south-facing slope above camp. Also heard in the vicinity of a ranch house at the west end of the Hyampom flat north of South Fork River.

Pitelka
1943

Spinus pinus

125

June 16-22 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Distributed locally in yellow-pine-oak woodland. Young of two different broods noted in the vicinity of camp; a well-grown fledgling with adult was observed on the 17th; a fledgling just out of the nest was present near camp on the 20th.

June 19 Hayfork Valley, Trinity Co., Calif.

One noted between 4500 and 5000 ft., and another near the summit. In both instances, the skin was flying overhead.

June 25-26 1 mi W Hyampson, 1200 ft., Trinity Co., Calif.

A few noted flying over pine-fir-oak forest on the south-facing slope above camp during two days of hunting there.

Pitelka
1943

Spinus psaltria

466

June 12 2 mi SE Beegun, 1650 feet, Tehama Co., Calif.

Noted several times as individuals or pairs flew over the valley flat. A few were observed over the blue-oak-digger pine areas on the north slope.

June 13-15 Noted generally in oak-pine woodland on the south slope. Family common.

June 16-22 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Commonest species of *Spinus* in this region. Occurs generally in open stands of oaks and young pine, especially along streams in the vicinity of streamside thickets and also along the woodland edge bordering on clearings and pastures.

June 25-26 1 mi W Hyampom, 1200 ft., Trinity Co., Calif.

Common about the more open woodland - chiefly Garry oak - near the base of the south-facing slope above camp. On both days, males followed by well-grown fledglings were observed.

Patelka
1943

Spirinus lawrencei

June 12 2 mi SE Beegun, 1650 feet, Tehama Co., Calif.

Occasional individuals noted in flight over the valley flat and north slope. None were observed stopping or perching anywhere.

June 13-15. Similarly, noted only in flight over the south slope!

June 16-22 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Apparently not uncommon — at least in the vicinity of camp and along Duncan Gulch. Appears to occur in situations similar to those of *S. psaltria*, although *Lawrencei* does not avoid conifers. On the 18th, a male *Lawrencei* was heard singing from near the top of a tall yellow pine.

June 25-26 1 mi W Hyampom, 1200 ft., Trinity Co., Calif.

During two days, this species was heard or seen flying over the Hyampom flat quite regularly. There are probably at least several pairs established in the vicinity.

Pitelka
1943

Iberholseria chlorura

June 19

Hayfork Valley, Trinity Co., Calif.

Noted from 5000 ft. to the summit.

Occurred regularly and commonly in chaparral of manzanita, Leurothoe cordulatus, Rumex, ^{and} Garrya. Associated with Passerella iliaca, the two being the most common species in this vegetation type. The Fox Sparrows were more common than the Towhees.

Petelka
1943

Pipilo maculatus

129

June 13-15 2 mi SE Beegum, 1650 feet, Tehama Co., Calif.

Fairly common in the dense, tall chaparral of scrub oak, Rhus, manzanita, and tall Adenostoma ^{of the south slope.} Several males were in song. One female was observed ^{and carrying} gathering food.

The species appears ^{to be} absent on the north slope. No tall chaparral occurs there.

June 16-22 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Common in the thickets of Ceanothus and manzanita growing in opening ^{pine-oak} in the woodland or in similar thickets scattered through open woodland. The ^{individual masses} thickets need not necessarily be continuous over any more than the breadth of several shrubs, and this species has been noted among shrubs of Ceanothus spaced apart, but rather closely; here I was reminded ^{Habitat} of a similar in character and also occupied by this species in another part of the state, namely the Artemisia flats below the piñon zone in the Owens Valley region.

June 25-26 1 mi W Hyampson, 1200 ft., Trinity Co., Calif.

Fairly common in areas of mixed chaparral and pine-fir-oak forest on the south-facing slope above camp.

Pitelka
1943

Pipilo fuscus

June 12 2 mi SE Beegun, 1650 feet, Tehama Co., Calif.

Fairly common on the north slope in the areas of mixed Adenostoma and blue oak-digger pine-manzanita, or along the borders between extensive areas of the two vegetation types. One ^{perhaps two or three} fledgling ^{day} out of the nest was observed.

June 13-15 One observed moving through an open area of blue oak + digger pine-manzanita just above camp near the base of the north slope. Except for this instance, the species was not observed near or on the valley flat yesterday or today.

On the south slope, the species again occurs in ^{and mixed} border vegetation as described above. In addition it was seen along the edge between tall, dense chaparral and Adenostoma. In such situations as the latter, P. fuscus and P. maculatus occurred in the same tall chaparral. The species was not observed on the higher parts of the south slope.

June 16-22 2 mi E Hayfork, 2400 ft, Trinity Co., Calif.

Regularly distributed ^{somewhat} but less abundant than P. maculatus. Occurs chiefly in mixed ^{open} woodland in the vicinity of ^{grassy} clearing, pastures, or openings covered in part with

Pitelka
1943

Pipilo fuscus.

137

June 16-22 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

manzanita and *Ceanothus*. Requires a more varied terrain (vegetationally) than *P. maculatus*.

June 25-26 1 mi W Hyampson, 1200 ft., Trinity Co., Calif.

Fairly common - more so than *P. maculatus* along the lower part of the south-facing slope above camp. Here the woodland is more open with scattered patches of clear grassy areas bordered by shrubs or thickets of manzanita, *Ceanothus*, *Rhamnus*, *Salix*, ^{*Vitis*} ~~*Rhus*~~, etc. The species appeared regularly present in such situations.

Pitelka
1943

Ammodramus savannarum

132

June 15 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

One heard in a field of lush green grass and "Klamath weed" with ^a willow border along Big Creek. (Earlier we noted this species in fields west of Hayfork.)

June 24. Hayfork, 2400 ft., Trinity Co., Calif.

Four males found established in an alfalfa field of perhaps 8-10 acres in size. With the alfalfa were a variety of grasses, and along irrigation ditches running through the field, a variety of taller grasses and weeds were present. The latter appeared to bear important part of the environment of this species as the stalks of these taller plants were frequently used as song posts or watch-perches. During the course of our hunting them down, it became apparent that the males were not definitely attached to specifically delimitable areas or territories. When disturbed, they frequently flew some distance across the field and took shelter there. Singing ^{of each male} appeared to be centered in a certain area, although even here, a male, flying to another part of the field as a result of disturbance, might sing there a few times. In terms of

Peterson
1943

Ammodramus savannarum

June 24 Hayfork, 2400 ft., Trinity Co., Calif.

territory size of sparrows as known in
Melospiza, for instance, ^{the activity spheres of} these birds were
certainly more extensive. Miller took a
female in addition to three males, and
observed an adult carrying food.

Pitelka
1943

Chondestes grammacus

June 12-15 2 mi SE Beegun, 1650 ft., Tehama Co., Calif.

Fairly common on the valley flat about relatively open areas where scrub oak, Ceanothus, or other ~~shrubs~~ are scattered over a grassy flat or slope among ^{occasional} pines or oaks. The species was not noted on the upper north slope. Occasionally, it was met on the south side. In the vicinity of the black oak belt on the upper south slope, Lark Sparrows were noted. The species occurs in neither the pure woodland or chaparral, but rather about and in openings over which there are scattered occasional shrubs or trees, as described above.

June 16-22 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Noted only in open, cleared woodland along the edges of Clearingans pastures to the east of Big Creek. I observed no more than 3 or 4 pairs. On the 18th, adults were observed feeding young out of the nest.

June 25-26 1 mi W Hyampson, 1200 ft., Trinity Co., Calif.

Present about large grassy opening bordered with willow, ash, and oak, and thickets of willow, Vitis, Rhus, Ceanothus, ^{and} Sambucus, chiefly, ^{and along} near the base of the south-facing slope just

Pitelka
1943

Chondestes grammacus

June 25-26 1 mi W Hyampson, 1200 ft., Trinity Co., Calif.
west of camp. Two pairs were
established there. Both males were
in song. One was taken. One family
group of at least three, probably
four well-grown young was noted
there. The species was also present
in the vicinity of a ranch house at the
west end of the Hyampson flat north of
South Fork River.

Patelka
1943

Amphispiza belli

June 12 2 mi SE Belgaum, 1650 feet, Tehama Co., Calif.

Occurs commonly in the Adenostoma of the north slope and ridge. The species appears consistently confined to that vegetation type. They appear more abundant in areas where the Adenostoma is pure and where the individual plants are only 3-4 feet high and more or less spaced apart. Four adults and one fully grown juvenile bird were taken. Occasional song heard.

June 13. Found abundant on the south slope, occurring in exceptional numbers throughout most of the Adenostoma. Again, pairs were most densely distributed in Adenostoma, plants of which were short and more or less spaced apart. Under seeming optimal conditions, pairs were found approximately 75 feet one from the other, distributed in a loose checker-board manner. In older, ^{and slightly denser} Adenostoma (plants ^{approx.} 5 feet high) Bell Sparrows were less abundant. They were absent ^{from} tall, dense Adenostoma. One male taken this morning was carrying a beak-full of a small green lepidopterous larva present in the Adenostoma.

Patelka
1943

Amphispiza belli

June 20-21 7 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Noted (and one taken) by Miller in
Adenostoma on the ridge of the east slope
of Duncan Gulch.

Patelka
1943

Junco oreganus

June 19

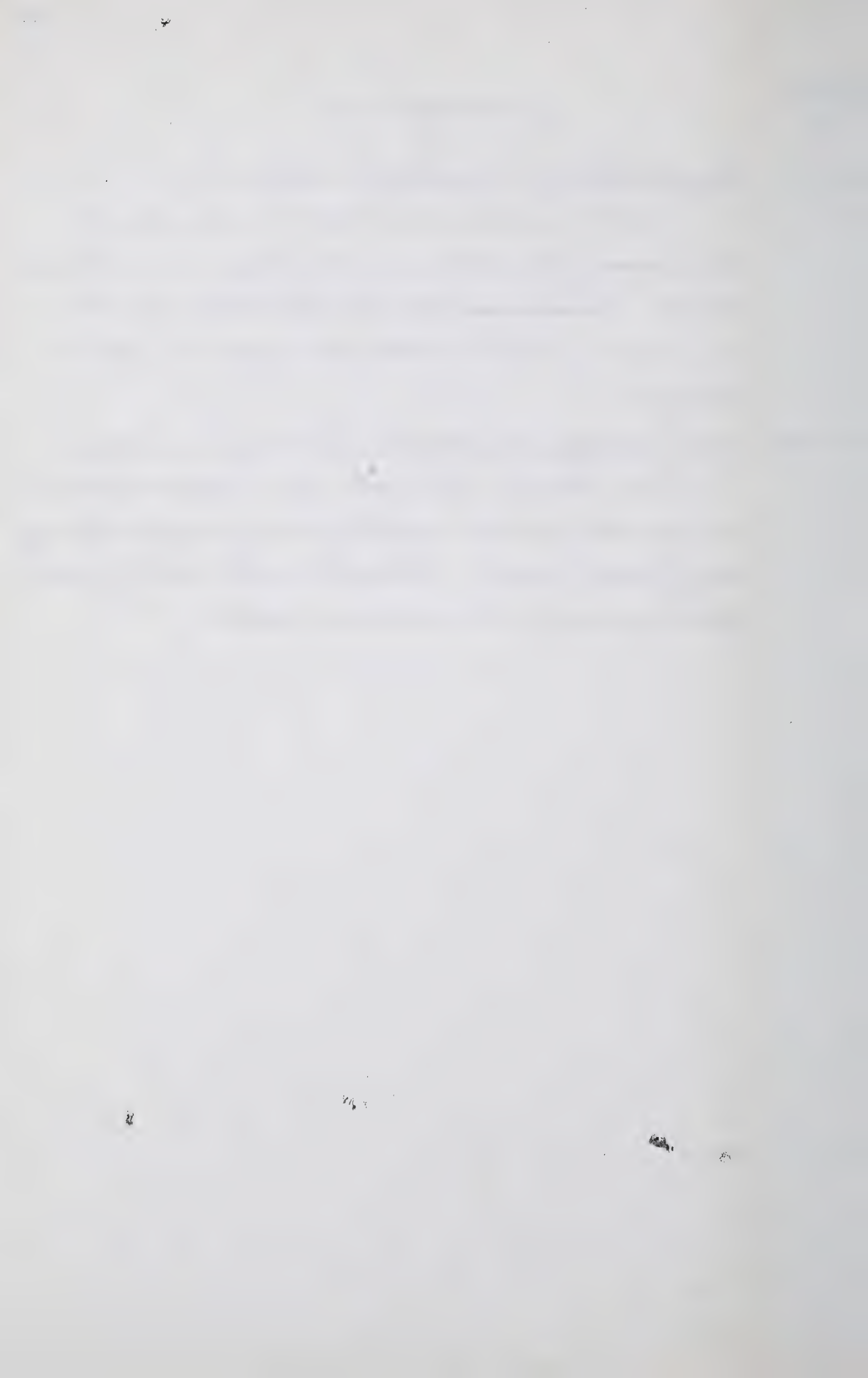
Hayfork Valley, Trinity Co., Calif.

Noted in mixed coniferous and deciduous forest as well as pure coniferous forest. Recorded at all elevations to the summit, but most abundant below 4500 ft.

June 22

2 mi E Hayfork, 2400 ft., Trinity Co., Calif

Observed in Douglas fir - yellow pine - oak forest on the north-facing slope along Hayfork Creek. Adults with well-grown young out of the nest were noted.



Pitelka
1943

Spizella passerina

June 12 2 mi SE Beegum, 1650 feet, Tehama Co., Calif.

A few noted only in the blue oak-digger pine-manzanita in the vicinity of camp. On the north slope, the species was observed only ^{near} ~~at~~ the base of the slope just above camp. Occasional song heard.

June 13 None observed on the south slope.

June 16-22 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Common about brushy clearings and in the fairly open stands of mixed pure-oak woodland. Adults with young out of the nest noted practically every day (16th, 17th, 18th, 20th, and 21st).

June 25-26 1 mi W Hyampom, 1200 ft., Trinity Co., Calif.

Common about open woodland (chiefly Garry oak) near the base of the south-facing slope near camp. Adults with well-grown fledglings were seen quite regularly. Also noted in the groves of poplars and willows with ^{scattered} mixed thickets of Rhus ^{and} Rosa.

Pitelka
1943

Casserella ^{*iliaca*}
~~*melodia*~~

June 19 Hayfork Valley, Trinity Co., Calif.

Noted from 5000 ft. upward. Occurs
in chaparral areas over the south and south-
east faces of the mountain. Common.

Stationed males singing frequently. (See
Oberholseria chlorura).

Peterson
1943

Melospiza melodia

June 16-22 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Common about brush heaps and Rosa-sabz Rhus thickets ~~and~~ the area of placer diggings along Hayfork Creek. Not noted along Big Creek, Duncan Gulch or elsewhere in the vicinity of camp.

June 11 Beegun, Tehama Co., Calif.

Present along the stream running westwardly from this village.

June 17 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

Male (#527) with strikingly light (brown) breast streakings mated to female (#528) with brownish black breast streakings

June 26 1 mi W Hyampom, 1200 ft., Trinity Co., Calif.

One heard singing from brush on the other (south) side of South Fork while I hunted at the west end of Hyampom flat. Another was heard singing near the ranch house at the west end of the flat

Mammals

Pitelka
1943

Eutamias

149

- June 18 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.
One taken on a dead ^{fallen tree} trunk near
dead brush, among ^{scattered} manzanita and
Ceanothus shrubs in a woodland of
young Garry oak and yellow pine.
- June 20 One taken near a brush heap under
willows bordering an open pine-
oak woodland, as above.
- June 22 Another taken in an oak tree
about 8 feet above ground.

Pitelka
1943

Sciurus griseus

June 20 2 mi E Hayfork, 2400 ft, Trinity Co., Calif.

Adult male taken in a yellow
pine in a grove of pine and oak
^{along in draw}
trees in the east slope of Duncan
Gulch. This individual and another
were chasing a third very excitedly.

Ritterka
1943

Perognathus inornatus

June 14

2 mi SE Beegun, 1650 ft., Tehama Co., Calif.

One lactating female taken on a patch of bare soil near the base of an *Adenostoma* shrub where there were three entrance holes big enough to have been made by *Dipodomys*. Adjoining the several square feet of bare soil was a patch of dried grass. The soil was brown, fairly loose, with an admixture of a gray, shale-like rock weathered to a gravel consistency. The bait with which the *Perognathus* was caught was a mixture of oatmeal and raisins. This specimen had one pair of pectoral and two pairs of inguinal mammae.

The general location of the catch was a fairly steep, south-facing slope about 50^{to 60} feet above the base of the slope. The general vicinity was vegetated with scattered shrubs, predominantly *Adenostoma* but including scrub oak and *Junya*. There were a few yellow and digger pines among the scattered shrubs.

Pitelka
1943

Dipodomys hermanni

June 14 2 mi SE Beegun, 1650 ft., Tehama Co., Calif.

One female, bearing 2 embryos each 11 mm. long, was taken on an area of bare soil near the base of an Adenostoma shrub and near entrance holes very likely those of this individual. For additional details on the general habitat, see the account of Perognathus.

Peterson
1943

Reithrodontomys megalotis

June 22 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

One immature female taken in a small grassy area about and under a heap of dead brush along the edge of thickets (Rosa, Rhus, Symphoricarpos, Salix) along the Duncan Gulch Stream passing camp.

June 23. Another, a lactating female, taken in a similar situation.

Pitelka
1943

Peromyscus maniculatus

June 22 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

One male taken in under a Rosa-Rhus-Symphoricarpos thicket along a willow thicket bordering a small stream.

June 23. Two additional adults taken in comparable situations.

Pitelka
1943

Peromyscus truei

June 13 2 mi SE Beegun, 1650 ft., Tehama Co., Calif.

One male taken on bare soil near the base of a dead manzanita shrub in the vicinity of scattered grass patches and digger pines, scrub oak, and manzanita.

Pitelka
1943

Neotoma fuscipes

June 17 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

A male taken near a nest in a heap of dead Ceanothus brush in an open pine-oak woodland.

June 23 Another taken near a nest in a Rhus thicket bordering on willow thickets along a small stream.

June 26 1 mi W Hyampson, 1200 ft., Trinity Co., Calif.

One $\frac{2}{3}$ -grown immature individual taken near a nest within a willow thicket near camp.

Pitelka
1943

Microtus

June 23 2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

One male taken along a runway through dry grass under a small heap of dead brush along the edge of thickets (Rosa, Rhus, Symphoricarpos) and trees (Salix and Populus chiefly) bordering the Duncan gulch stream near camp.

Pitelka
1943

Plants from Tehema and Trinity counties,
June, 1943

Collecting localities:

2 mi SE Beegum, 1650 ft., Tehema Co., Calif. June 11-15.

2 mi E Hayfork, 2400 ft., Trinity Co., Calif.

June 16-24.

Hayfork Bally, 3200-6262 ft., Trinity Co., Calif.

June 19.

1 mi W Hyampom, 1200 ft., Trinity Co., Calif.

June 25-26.

PINACEAE

Pinus lambertiana Dougl. Sugar Pine.--Hayfork Bally.

Pinus ponderosa Dougl. Yellow Pine.--Hayfork, Hyampom;
up to 5000 ft. on Hayfork Bally.

Pinus sabiniana Dougl. Digger Pine.--Beegum, Hayfork,
Hyampom.

Pseudotsuga taxifolia (Lamb.) Britt. Douglas Fir.--On
N-facing slope near Hayfork camp; also Hayfork Bally
and Hyampom.

Abies concolor Lindl. & Gord. White Fir.--Hayfork Bally,
4900 ft. and upward to about 6000 ft.

Abies magnifica Murr. Red Fir.--Top and north face of
Hayfork Bally, 6000-6200 ft.

CUPRESSACEAE

Libocedris decurrens Torr. Incense Cedar.--Hayfork Bally,
5000 ft. and upward.

Juniperus californica Carr. California Juniper.--Locally
distributed at approximately 1200 ft. for a short
distance along the Red Bluff-Beegum road.

TYPHACEAE

Typha latifolia L. Common Cat-tail.--Hayfork.

GRAMINEAE

Bromus tectorum L. Downy Chess. Common grass about Hayfork
camp.

Festuca idahoensis Elmer. Blue Bunch Grass.--Tall grass about
Hayfork camp.

{Elymus glaucus Buckl. Western Ryegrass and
Trisetum canescens Buckl.--In openings of fir-pine-oak forest
at 3200-3300 ft., Hayfork Bally.

Aira caryophyllaea L.--Small-grained grass about Hayfork camp.

CYPERACEAE

Cyperus vegetus Willd.--Local colonies of sedge along stream
near Beegum camp.

PLANT INDUSTRY

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2. The foreign countries, which supply the remainder of the products.
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LILIACEAE

Brodiaea elegans Hoover (B. coronaria (Salisb.) Jepson of Jepson's manual). Harvest Brodiaea.--In open grassy areas about Garry oak-Ceanothus-manzanita at Hayfork.

Brodiaea multiflora Benth.--In openings of fir-pine-forest at lower elevations (3200-3300 ft.) of Hayfork Bally.

Calochortus maweanus Leicht. ?--A dwarf Mariposa lily, 5800 ft., Hayfork Bally.

IRIDACEAE

Iris macrosiphon Torr. Ground Iris.--4500 ft., Hayfork Bally.

ORCHIDACEAE

Corallorrhiza striata Lindl. Coral-root.--4500 ft., Hayfork Bally.

SALICACEAE

Salix lasiandra Benth. Yellow Willow. Large willow along stream near Hayfork camp.

Salix laevigata Bebb. ? Red Willow.--Common willow about Hayfork camp.

Salix melanopsis Nutt. Longleaf Willow.--Common willow on flat south of Hyampom camp.

Salix lasiolepis Benth. ? Arroyo Willow.--Scattered small shrubs along stream near Beegum camp.

Populus trichocarpa T. & G. Black Cottonwood.--Along stream near Hayfork camp. Common on Hyampom flat.

BETULACEAE

Alnus rhombifolia Nutt. Red Alder. Along Big Creek, Hayfork

FAGACEAE

Quercus lobata Nee. Valley Oak.--Predominant tree along Dry Creek west of Red Bluff.

Quercus garryana Dougl. Oregon Oak.--Common at Hayfork and Hyampom.

Quercus douglasii H. & A. Blue Oak.--Predominant in woodland areas at Beegum.

Quercus dumosa Nutt. Scrub Oak.--On steep SW-facing slope above Beegum camp.

Quercus chrysolepis Liebm. Cañon Oak, Golden Oak.--Hayfork Bally, 3200-ft. and upward; also N-facing slope along Hayfork Creek at 2400 ft. Hyampom.

Quercus wislizenii A. DC. Interior Live Oak.--On NE-facing slope near Beegum camp; shrub 6-8 ft. high on east slope of Duncan Gulch, near Hayfork.

FAGACEAE (continued)

Quercus kelloggii Newb. California Black Oak.--Local grove on upper NE-facing slope near Beegum camp. Common on drier rolling hills and slopes about Hayfork. Not seen at Hyampom?

Castanopsis chrysophylla A. DC. Giant Chinquapin. 3200 ft., Hayfork Bally.

POLYGONACEAE

Eriogonum nudum Dougl.--In openings of fir-pine-oak forest at lower elevations on Hayfork Bally.

PORTULACAEAE

Calyptridium umbellatum (Torr.) Greene. Pussy Paws.--5800 ft., Hayfork Bally.

SAXIFRAGACEAE

Philadelphus californicus Benth. Mock Orange.--Shrub in shady draw on S-facing slope above Hyampom camp.

Ribes inerme Rydb. var. klamathense (Cov.) Jepsen.--Shrub along stream, Duncan Gulch, near Hayfork; also about grassy openings in willow thickets near Hayfork camp.

Ribes reezlii Regel.--Sunny, open ridge, 4500 ft., Hayfork Bally.

ROSACEAE

Rosa pisocarpa Gray ?--Common rose about Hayfork camp.

Cercocarpus betuloides Hutt. Hard Tack, Mountain Mahogany. On NE-facing slope at Beegum. on S-facing slope above Hyampom camp.

Adenostoma fasciculatum H. & A. Chamise.--Predominant chaparral cover in the Beegum region. Present on well-drained ridge along east side of Duncan Gulch at Hayfork.

Prunus emarginata (Dougl.) Walp. Bitter Cherry.--Cf. Miller.

Prunus demissa (Nutt.) Dietr.--Western Choke-Cherry.--5800 ft., Hayfork Bally. Also vicinity of poplar groves on the Hyampom flat.

Prunus subcordata Benth. Sierra Plum.--5800 ft., Hayfork Bally. Also S-facing slope above Hyampom camp.

Crataegus douglasii Lindl. Western Black Haw.--Along stream near Hayfork camp.

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Pitelka
1943

Plants, page 4

LEGUMINOSAE

Cercis occidentalis Torr. Western Red-bud.--Member of tall chaparral on NE-facing slope near Beegum camp. Also on S-facing slope above Hyampom camp.

Lupinus nanus Dougl. ?--In open, grassy areas about Garry oak-Ceanothus-manzanita near Hayfork camp.

Lupinus latifolius Agardh.--Small shrubby lupine in openings of fir-pine-oak forest at lower elevations on Hayfork Bally.

Lupinus albifrons Benth.--Small shrub, 5800 ft., Hayfork Bally.

Lotus crassifolius (Benth.) Greene. Bird's-foot Trefoil.--In openings of fir-pine-oak forest at lower elevations on Hayfork Bally.

ANACARDIACEAE

Rhus diversiloba T. & G. Poison Oak.--Locally common on # NE-facing slope near Beegum; especially abundant there in openings in black-oak grove. On S-facing slope above Hyampom camp. Absent at Hayfork.

Rhus trilobata Nutt. Squaw Bush--Common about Hayfork camp. Also present on S-facing slope above Hyampom camp.

ACERACEAE

Acer glabrum Torr. Sierra Maple.--5800 ft., Hayfork Bally.

SAPINDACEAE

Aesculus californica (Spach) Nutt. Buckeye.--In draws along the edges of tall chaparral at base of NE-facing slope near Beegum camp.

RHAMNACEAE

Rhamnus purshiana DC. Cascara Sagrada.--Small tree along stream near Hayfork camp.

Rhamnus californica Esch. subsp. tomentella Wolf. Coffee-berry.--On S-facing slope above Hyampom camp.

Rhamnus crocea. Nutt. Red-berry.--Shrub in densely vegetated draws at base of NE-facing slope near Beegum camp.

Ceanothus lemmoni Parry.--Under yellow pines and Garry oaks, west slope of Duncan Gulch, Hayfork.

Ceanothus integerrimus H. & A. Deer Brush.--Tall shrub in draws at base of NE-facing slope near Beegum camp. Common on Hayfork Bally at lower elevations; also on N-facing slope along Hayfork Creek.

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RHAMNACEAE (continued)

Ceanothus cordulatus Kell. Snow-brush.--On Hayfork Bally, from at least 4500 ft. upward.

Ceanothus cuneatus (Hook.) Nutt. Buck-brush.--On SW-facing slope above Beegum camp; common in Hayfork basin, less so at Hyampom.

Ceanothus prostratus Benth. Mahala Mat.--Locally common in fir-pine-oak forest at lower elevations on Hayfork Bally.

VITACEAE

Vitis californica Benth. California ^{Wild} Grape.--Along stream on upper NE-facing slope near Beegum camp.

HYPERICACEAE

Hypericum perforatum L. Klamath Weed.--Locally abundant in moist, stream-border areas on NE-facing slope near Beegum camp. Generally distributed in moist, cleared areas about Hayfork and Hyampom.

ONAGRACEAE

Godetia quadrivulnera (Dougl.) Spach.--In open grassy areas about Garry oak-Ceanothus-manzanita near Hayfork camp.

GARRYACEAE

Garrya congdoni Eastw.--On steep SW-facing slope above Beegum camp. Associated with Adenostoma and Quercus dumosa.

Garrya fremontii Torr. Bear Brush.--In chaparral on south face of Hayfork Bally, 6000 ft. Probably this species also at Hyampom.

CORNACEAE

Cornus glabrata Benth. Dogwood.--Common about Hayfork camp.

ERICACEAE

Chimaphila umbellata Nutt. Pipsissewa.--Small shrub at 4500 ft., Hayfork Bally.

Rhododendron occidentale Gray. Western Azalia.--Along creek west of Peanut, Tehama Co.

Arbutus menziesii Pursh. Madroño.--Hayfork and Hyampom.

Arctostaphylos manzanita Parry.--Beegum, Hayfork, and Hyampom; also on Hayfork Bally at 6000 ft.

(SPECIAL) 1900

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PRIMULACEAE

Trientalis europaea L. var. latifolia Torr. Star-flower.--
Hayfork Bally, lower elevations.

OLEACEAE

Fraxinus oregona Nutt. Oregon Ash. Fairly common in
vicinity of Hyampom camp.

GENTIANACEAE

Swertia albicaulis Dougl. var. nitida (Benth.) Jepson.--
In open grassy areas about Garry oak-Ceanothus-
manzanita at Hayfork.

HYDROPHYLLACEAE

Eriodictyon californicum (H. & A.) Greene--Yerba Santa
Locally abundant in open stands of Adenostoma or
along edge on SW-or NE-facing slopes near Beegum
camp.

LABIATAE

Scutellaria antirrhinoides Benth.--Small blue mint along
shaded draw on S-facing slope above Hyampom camp.
Common.

SCROPHULARIACEAE

Penstemon heterophyllus Lindl.--Present on NE-facing slope
near Beegum camp in association with Cercocarpus,
manzanita, and Rhus diversiloba. Blue corolla.

Castilleja affinis H. & A. Scarlet Cup.--5800 ft.,
Hayfork Bally.

CAPRIFOLIACEAE

Sambucus glauca Nutt. Blue Elderberry.--Hyampom flat,
south of camp.

Sambucus racemosa L.? Mountain Elderberry.--Hayfork
Bally, 5400 ft. and upward.

Symphoricarpos albus (L.) Blake. Snow Berry.--Common
about Hayfork camp.

COMPOSITAE

Agoseris retrorsa Greene.--Common about Hayfork camp.

Pitelka, F. A.

Catalog nos. 596-601

Local and miscellaneous, 1945-1946

Pitelka
1945

Catalog

Nov. 16 U.C. campus, Berkeley, Alameda Co., Calif.

596 ♀ *Aphelocoma coerulescens* 53.4 gm.

(Caged bird; obtained as fledgling on May 10, 1945.)

1946

Feb. 10 7 mi. E Dos Palos, 135 feet, Fresno Co., Calif.

597 ♀ *Aphelocoma coerulescens* Coll. by A.H. Miller 88.3 gm.

March 6 Berkeley, Alameda Co., Calif.

598 ♂ *Aphelocoma coerulescens* Testis 2 mm. 60.4 gm.

March 3 1 mi. N Lafayette, 1000 ft., Contra Costa Co., Calif.

599 ♂ *Cyanocitta stelleri* Coll. by C.G. Sibley Testis 4 mm. 123.7 gm.

600 ♂ *Cyanocitta stelleri* Coll. by C.G. Sibley Testis 3 mm. 124.6

601 ♂ *Aphelocoma coerulescens* Coll. by A.H. Miller Testis 6 mm. 117.3

Pitelka, F. A.

Western Nevada, June, 1946

Catalog nos. 602-607

Journal

Pitelka
1946

Catalog

June 23 2 mi. E, 1 mi. S Steamboat Springs, Washoe Co., Nevada

602 ♂ *Aphelocoma*

Testis 4 mm.

603 ♀ "

604 ♀ juv. "

June 24 3 mi. E Woodfords, Alpine Co., California

605 ♀ juv. *Aphelocoma*

606 ♂ juv. "

Testis 2 mm.

June 25 10 mi. SE Gardnerville, Douglas Co., Nevada.

607 ♂ *Aphelocoma* ^{Collected by} F. Richardson Testis 4.5 mm.

Pitelka
1946

JOURNAL

June 21 Southern Washoe, Lyon, and Storey counties, Nevada.

The following observations were made during an excursion conducted by members of the faculty of the University of Nevada for the meetings of the AAAS at Reno. This excursion, the first of two held on consecutive days, included visits to Pyramid Lake, "desert" east of Reno, Virginia City, and Steamboat Springs.

Travelled north from Reno through Spanish Spring Valley. Large expanses of the hills to either side of the road before descent into the valley are covered with cheat grass (Bromus tectorum) which indicated repeated range fires. The former vegetation was sagebrush and associated species.

Spanish Spring Peak to the east of the valley rises to 6900 feet and is covered with "scars" of cheat grass as a result of a large range fire in 1944. At a stop on an alluvial fan in Spanish Spring Valley, W.D. Billings, plant ecologist, pointed out species of the sagebrush association or, according to him, "steppe": Artemisia tridentata, Grayia spumosa (hopsage), Chrysothamnus spp. (rabbitbrush), and Aryzopsis hymenoides (Indian rice-grass). On the hills to the west occurred scattered trees of Juniperus utahensis. Peavine Peak (8270 feet) to the southwest

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June 21 Southern Washoe, Lyon, and Storey counties, Nevada.
(northwest of Reno) is covered with mountain mahogany, according to Billings, with a scattering of pines at the top, but no piñons. He stated juniper to be common there.

Continued north into Warm Spring Valley (labelled "Sink" on Reno U.S.G.S. quadrangle map, draining Cottonwood Creek from southeast). Observed example of the big greasewood-shadscale association on a different type of soil, probably salinity, containing Sarcobatus vermiculatus (big greasewood), Atriplex lentiformis (salt bush), and Atriplex confertifolia (shadscale). This association is further indicative of a seasonal high water table; it appears to represent an edaphic climax.

Warm Spring Valley drains into Pyramid Lake through Mullins Gap cutting the Virginia Mountains along the southwest side of the Lake. Stopped on west side of crest of Virginia Mts. to observe the shadscale-little greasewood association which, according to Billings, occurs on residual soils and represents a true climax association ^{along} ~~on~~ the west side of the Great Basin, ^(cold desert climate). The common dominants are Atriplex confertifolia (shadscale), Sarcobatus baileyi (little greasewood), and Artemisia.

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1946

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June 21 Southern Washoe, Lyon, and Storey counties, Nevada.
spinescens (bud sage).

Suitable breeding habitat, ^{for scrub jays} (but apparently no piñon) occurs on the Virginia Mountains. The local population, so far as known, represents the coastal group of races of A. coerulescens and is now included with the Sacramento Valley race, superciliosa. Some intermixture may occur, however, as a typical example of A. c. nevadae, ^{a first-year female,} was collected in the fall near Sutcliffe on the west side of Pyramid Lake.

Continued south eastward along the shore of Pyramid Lake to the mouth of the Truckee River. Scattered white pelicans seen along the shore. They breed on Anaho Island in Pyramid Lake.

An interesting area of dunes was observed north of Wadsworth, ^{which town is} located at the "head" of the Truckee River. The dunes result from wind action on the sediments of Pleistocene Lake Lahontan (which also filled Mullin's Gap and Warm Springs Valley, where old shore lines can be seen). In one example of stabilized dune vegetation, the dominant shrubs were Dalea polyadenia, Atriplex canescens, Tetradymia comosa, Tetradymia glabrata, Eurotia lanata, and Grayia spinosa.

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1946.

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June 21, Southern Washoe, Lyon, and Storey Counties, Nevada.

Prominent perennial herbs were Aryzopsis
hymenoides and Sphaeralcea ambigua.

According to Billings, in May and early June, there is a great variety of annuals in blossom here, e.g., Cryptantha circumscissa, Coldenia nuttallii, Oenothera deltoides, Gilia leptomeria, and Abronia turbinata.

Continued south through Wadsworth and Fernley along east side of Virginia Range, to the northern part of the Churchill Valley, thence west along the south border of the Virginia Range and on the Carson Plains to Dayton. Turned right at Dayton, climbing up into Virginia City, thence over Geiger Summit (7000 feet) down northwestward toward Steamboat Springs at the lower end of the Truckee Meadows. Pinon-juniper woodland covers the region about Virginia City. In addition, local areas of yellow pine are found alternating with pinon-juniper, the former occurring on a poor soil (kaolinitic). According to Billings, the yellow pine occurs on azonal yellowish soil developed from hydrothermally altered andesites and basalts, whereas pinon-juniper occurs on zonal soils from unaltered andesites and basalts.

Patella
1946

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June 21 Southern Washoe, Lyon, and Storey counties, Nevada.
Certain indicator plants, as Eriogonum
robustum, are endemic to the yellow-
pine areas.

Visited hot spring ^{and sinister terraces} at Steamboat
Springs and then proceeded northward,
returning to Reno.

June 22 Southern Washoe, Ormsby, Douglas counties, Nevada;
and Eldorado and Placer counties, California.

The second excursion held for the AAS
meetings was conducted through Carson
City, around Lake Tahoe, and over the
Mt. Rose highway northeast of Lake Tahoe.
Visited the Nevada State Museum in
Carson City. Its director, Richard Gordon
Miller (M.S. from Cornell), appears to be an
energetic and capable young man. Entered
Tahoe region along Clear Creek highway
over Spooner's Summit (7140 feet). Stopped
for lunch at Emerald Bay — a spectacularly
beautiful spot. Acquainted myself with
huckleberry oak, Quercus vaccinifolia. Road
over Mount Rose Summit (8933 feet)
passes through subalpine forest of Pinus
albicanlis, P. contorta, and P. monticola
together with Tsuga mertensiana. Here Nucifraga
junco oreganus, Pentstemon gambeli, and
Carpodacus cassinii were observed.

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June 23 Steamboat Springs, Washoe Co., Nevada.

Spent about $1\frac{1}{2}$ hours in yellow-pine area just west of Steamboat Springs. The yellow pines are young and represent second-growth, as all of the original timber was lumbered during heavy mining activities at Virginia City. The pine occurs on poor soil and is surrounded by *Artemisia* with occasional piñons. There was a strong, howling west wind, making bird observation quite frustrating, but the following species were detected here:

Pica pica.

Myiochanes richardsonii

Buteo jamaicensis.

Sayornis saya

Spizella passerina, with young out of nest.

Dendroica auduboni, with well grown young out of the nest, here at 4900 feet occurring ^{for this species,} in a surprisingly arid situation.

Otocoris wilsonianus, adult with two

young out of the nest found in one of three piñons a few hundred feet away from the main yellow-pine island. There were old magpie nests in these piñons. The tail feathers of the young were about $\frac{1}{2}$ grown.

Oreoscoptes montanus.

Colaptes cafer

Salpinctes obsoletus

Stelgidopteryx ruficollis
entering small prospecting cave.

Euphagus cyanocephalus

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1946

June 23 2 mi. E, 1 mi. S Steamboat Springs, Washoe Co., Nevada.

Followed old road to Virginia City, ^{west of Steamboat Springs} and proceeded into lower part of canyon where willow thickets occur along the stream. Typical piñon-juniper woodland occurs on the slopes along this stream, unnamed on the U.S.G.S. map (Carson quadrangle). Among the small trees were shrubs of Artemisia, Chrysothamnus, Bursera, and Prunus andersonii (desert peach). Three pairs of jays, spaced ~~along~~ a half mile or so ~~along~~ the stream, were located without difficulty, but only the first pair, with young out of the nest but not yet fully grown, could be approached. I obtained the adults and one young, and much to my surprise, they proved to be "superciliosa", at least so far as one could judge from the worn plumage. This discovery now suggests that the Aphelocoma population of the lower end of the Virginia Range may be of the "superciliosa" type. Moreover, this falls into line with the evidence from the more northern part of the same range, where "superciliosa" occurs.

Other species seen here included Pica pica, Oxyechus vociferus, Psaltirparus minimus, Hedymeles melanocephalus, ~~Condalia~~, Falco sparverius, Lophortyx californica,

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June 23 2 mi E, 1 mi S Steamboat Springs, 5000 ft., Washoe Co., Nev.
Myiarchus cinerascens, Empidonax traillii,
Thryomanes bewickii, Turdus migratorius,
Sturnella neglecta, Euphagus cyanocephalus,
Capoducius mexicanus, and Pipilo maculatus.

In the afternoon, I drove south to Carson City watching the distribution of the piñon-juniper. It had been my belief earlier, that the Truckee-Washoe-Carson valleys formed the barrier separating the Sierra Nevada populations of A. coerulescens, here occurring in the Carson Range, from the Great Basin populations. At present, it appears that these lowland areas may still act as ^{at least partial} barriers, and that the explanation for ^{the occurrence} ~~contiguity~~ of "superciliosa" ^{in the lower Virginia Range} is to be sought in the relative continuity of the piñon-juniper northward along that range and thence westward via Stateline Peak (8009 ft.) onto the Sierra Nevada. The barren sagebrush country north of Reno ^{and the} Truckee Meadows would appear to form an effective local barrier fully as effective as the Owens Valley. Southward, however, the Virginia Range is more accessible to birds from the Carson Range, and vice versa. In the region of the Steamboat Hills, piñon-juniper occurs

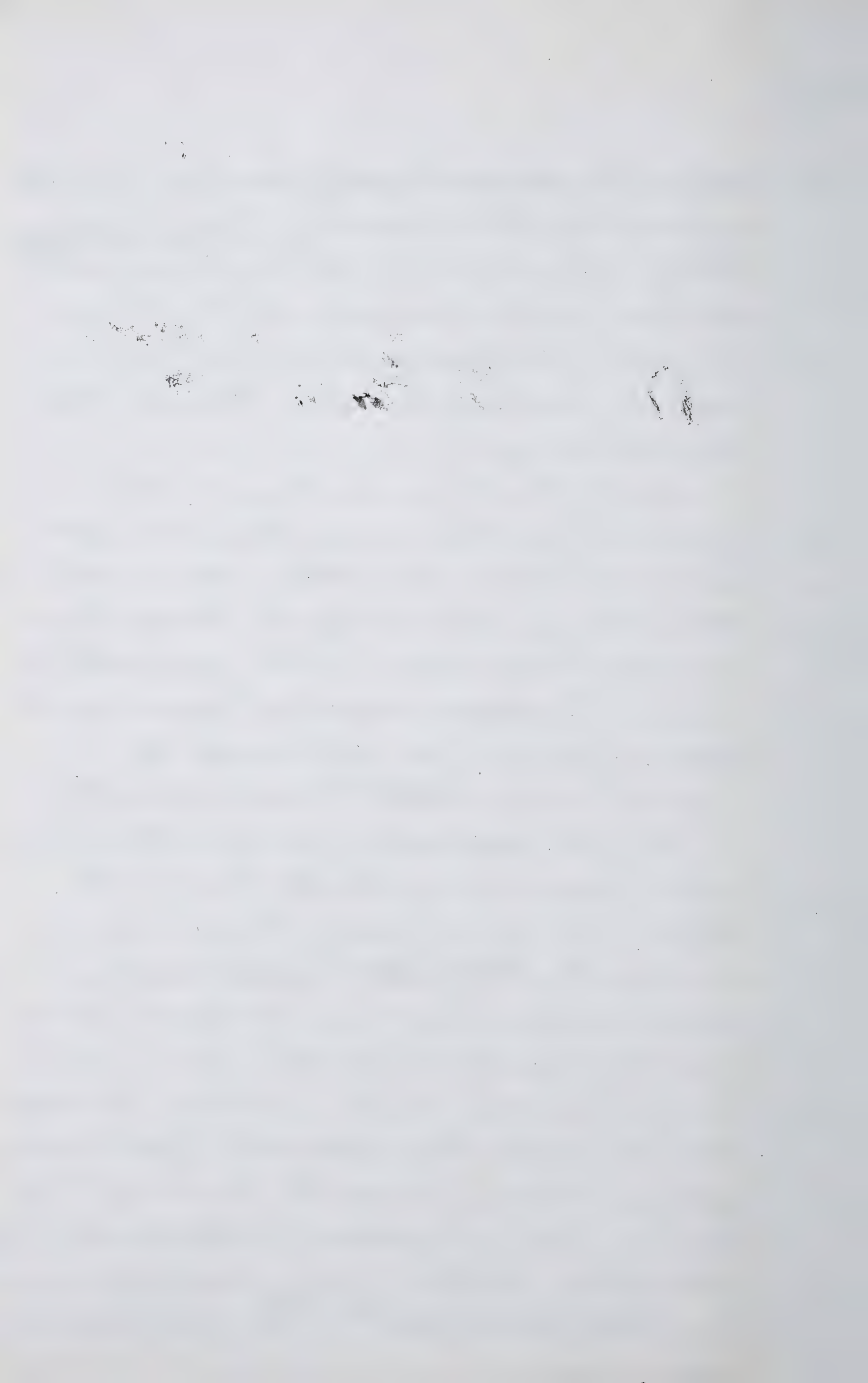
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June 23 Southern Washoe and Ormsby counties, Nevada.
immediately to the east of Steamboat
Valley. The island of yellow pine, ^{on NE slopes of Steamboat} with
scattered pinons around its periphery
provides a stepping stone, if not
suitable breeding habitat, between the
two main ranges.

South of the Virginia range, the
gap separating that range from the upper
end of the Pine Nut Mountains is a small,
and although it is cut by the Carson River,
scattered pinons occur in the gap. ~~and~~ The
Virginia-Pine Nut mountain axis would
appear to permit free interchange of
individuals in ~~that~~ ^{any north-south} direction.

Along the west side of the Washoe Valley,
yellow pines occur to the base of the
slope. There are willow thickets and
manzanita ~~along it~~ ^{locally} and Aphelocoma
occurs in certain areas at least, even
though there is no pinon-juniper
for miles to the north, south, or east.
F. Richardson has observed Aphelocoma
along a stream above the home of R. G.
Miller near Franktown on the west side
of the Valley. I have one juvenile specimen
from ~~that locality~~ ^{the southern end of Washoe Valley} sent to me by Richardson
over a year ago.



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June 23 Southern Washoe and Ormsby counties, Nevada.

The hills on the south side of Washoe Valley are bare. Those immediately to the SW of Carson City are also bare. There are yellow pines on the slopes west of Carson City but apparently no piñons. Prison Hill southeast of Carson City is also bare except for a few scattered small trees. Southward the gap between the Pine Nut Range and the Sierra Nevada ~~widens.~~
~~spreads.~~

June 24 Douglas Co., Nevada and Alpine Co., Calif.

Drove south with Frank Richardson, through Carson Valley. Stopped near crossing of Carson River and main north-south highway and observed a pair of willets and a pair of Wilson phalaropes, both giving alarm notes as we wandered about a marshy area. Apparently there are no definite breeding records of the willet from this area.

Took road to Fredericksburg, which is along the west margin of a dry, sagebrush covered valley. Just behind Fredericksburg, yellow pines come down on the mountain slopes to the valley flat, and it is possible that jaup occur there locally. We continued up to Markleville and passed through ^{an interesting} extensive open forest of mixed yellow pine and piñon. We stopped near Markleville but heard no jaup. It is

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1946

June 24 Douglas Co., Nev., and Alpine Co., California.

possible that scrub jay occur here, but I am doubtful. Judging by the snowdrift fences, this country is well-covered with snow in winter and I believe that this excludes scrub jay at least as regularly distributed permanent residents.

We then took a road southward out of Woodfords and proceeded east through Diamond Valley, stopping at a point three miles east of Woodfords at the base of low mountains covered extensively with piñon-juniper woodland. Scrub jay were found to be regularly distributed through this area. Three well grown young were obtained and appeared to be of the "superciliosa" type. Only brief glimpses of adult birds were obtained, but the intensity of the blue coloration on the worn plumage of the pileum and the brownish back indicated that these birds were close to, if not actually of, the "superciliosa" type.

We returned to Gardnerville in the Carson Valley. There appears to be no suitable breeding habitat ^{of any extent} for the scrub jay in the vicinity of Gardnerville. It is possible that the species might occur in local willow

[Species observed at this locality included Pica pica, Spizella breweri, and Corvus brachyrhynchos (young calling from yellow pine at edge of meadows).

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June 24 Alpine Co., Calif., and Douglas Co., Nevada.

thickets, but I am inclined to doubt that it breeds. The specimen in MVZ from Gardnerville is a first-year male taken in August, 1911.

A specimen taken near Fredericksburg on June 25, 1921, by Hunt is an adult male. His notes state that he obtained it "in sage."

From Gardnerville, we proceeded southward over the road to Antelope Valley. The mountains here are a direct, broad connection of juniper-juniper between the Pine Nut Mountains and the east slopes of the Sierra Nevada. We stopped at a point about 10 miles SE of Gardnerville and camped at approximately 5800 feet.

June 25. Scrub jays are generally distributed here. But after 2½ hours of hunting, I was unable to get a single one. Young of the year are well grown and independent; the family groups are broken up and the birds wander widely. F. Richardson succeeded in getting one adult male in early stages of molt (center tail feathers ½ grown). This specimen appears to combine the characters of "superciliaria" and nevadai.

Other species seen at this locality were Psaltiriparus minimus, Penthestes

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June 25 10 mi SE Gardnerville, 5800 feet, Douglas Co., Nevada
Gambelii, Parus inornatus (not so numerous
as Penthestes), Cyanocitta stelleri (two families
of young in vicinity of springs), Cyanocephalus
Cyanocephalus, Sayornis saya, Quanga
ludoviciana, Turdus migratorius,
Hedymeles melanocephalus, Spizella passerina,
Oberholseria chlorura, Pipilo maculatus,
Dendroica ngescens, Thryomanes bewickii,
Colaptes cafer, Myiarchus cinerascens,
Phalaenoptilus nuttallii, Chordeiles minor
(booming), Lophortyx californica, and
Oreortyx picta (pair with young, ^{just} able to fly.
short distances observed).

We proceeded southeastward into Antelope
Valley, thence eastward over a low pass
into Wellington, in Smith Valley. Here we
left the main highway and turned right
on a gravel road, undergoing reconstruction,
which continues south just east of Desert Creek Peak.
We proceeded south far enough to get a
view of the mountains, ^{to the south} on which
Pine Grove (western Mineral County) is located.
Typical nevadae is known from the
~~latter~~ locality. Piñon-juniper is continuous
westwardly on the Sweetwater Range and
onto the east slopes of the Sierra Nevada.
Smith Valley, and apparently Mason Valley
to the east are bare. The Singatze Range

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June 25 Southern Lyon County, Nevada.

separating these valleys are without piñon-juniper, so far as could be observed ^{from} the southwest at Wellington. The pass over the gap separating the Pine Nut Range from the northern outliers of the Stillwater Mts. is generally bare, but there are a few scattered piñons.

We then returned to ^{the road junction at} Holbrook in southern Douglas County and proceeded southward along the west side of Antelope Valley, noting that south of the valley, piñon-juniper formed an east-west connection between the main Sierra Nevada mass and the smaller ranges west and south of Walker Lake.

From the above preliminary observations, I would conclude tentatively that the lowlands of the Black Rock Desert, Granite Spring Valley, Carson Sink, and Walker Lake form the main barrier separating nevadæ from superciliosa; that the Virginia Range is probably inhabited ^{throughout} by superciliosa; that superciliosa may extend down into the northern part of the Pine Nut Range or possibly even farther south; that superciliosa extends south along the east slopes of the Sierra Nevada

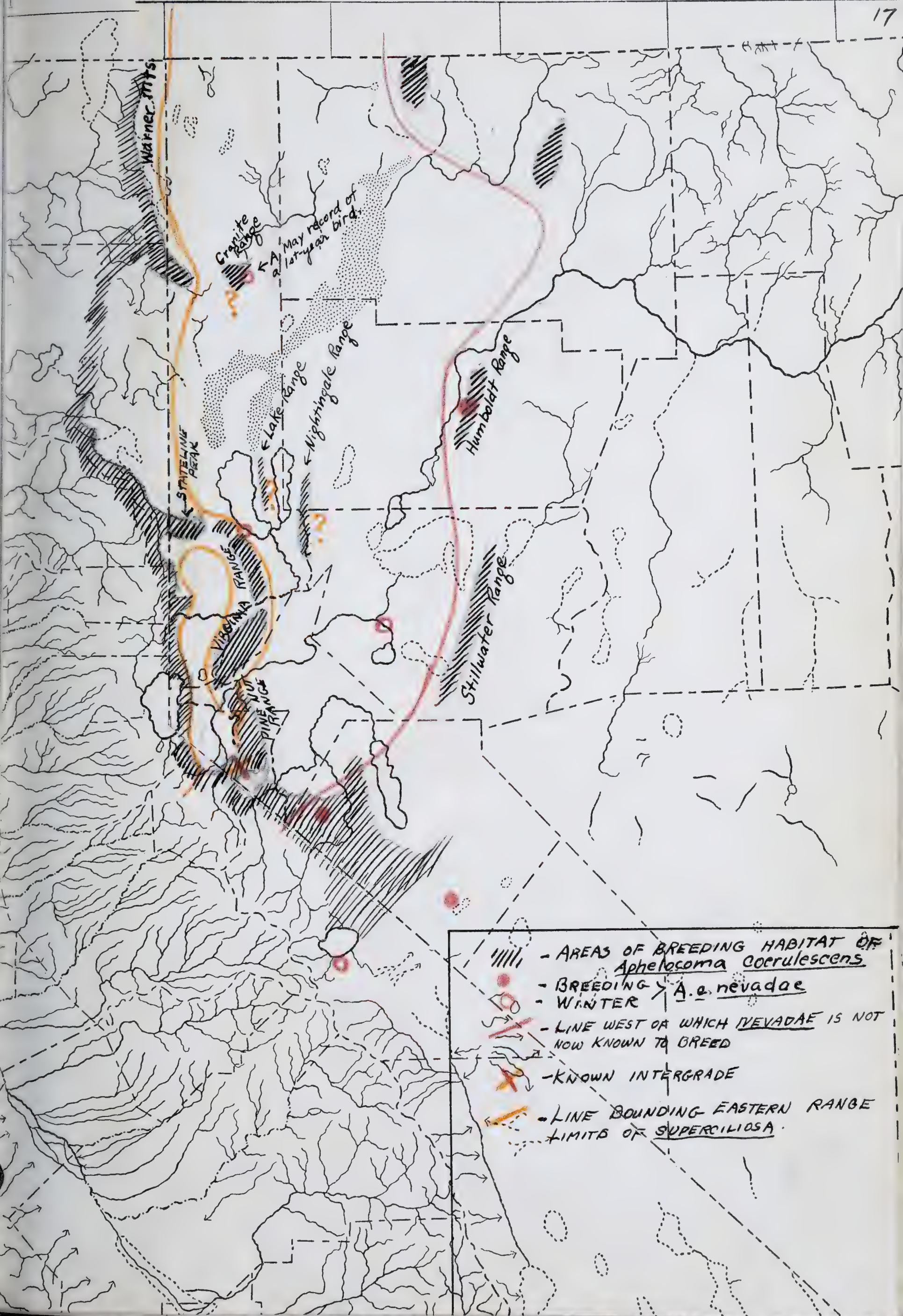
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June 25

Alpine Co., Calif., and Douglas Co., Nevada.
as far as Diamond Valley in Alpine County; that "intergradation" occurs in the bridge of piñon-juniper connecting the Pine Nut Mts. and the Sierra Nevada, probably in the Pine Nut Mts. themselves and possibly in the northern Stillwater Mountains and the neighboring Sierra Nevada slopes to the west. That nevadae can cross the broad lowland barrier to the north, however, is clearly indicated by records from Sutcliffe and the Granite Range. Nothing is known of the breeding populations of scrub jays in the Granite, Lake, and Nightingale ranges (see map on following page), although I would now suspect that superciliosa occurs in all of these.

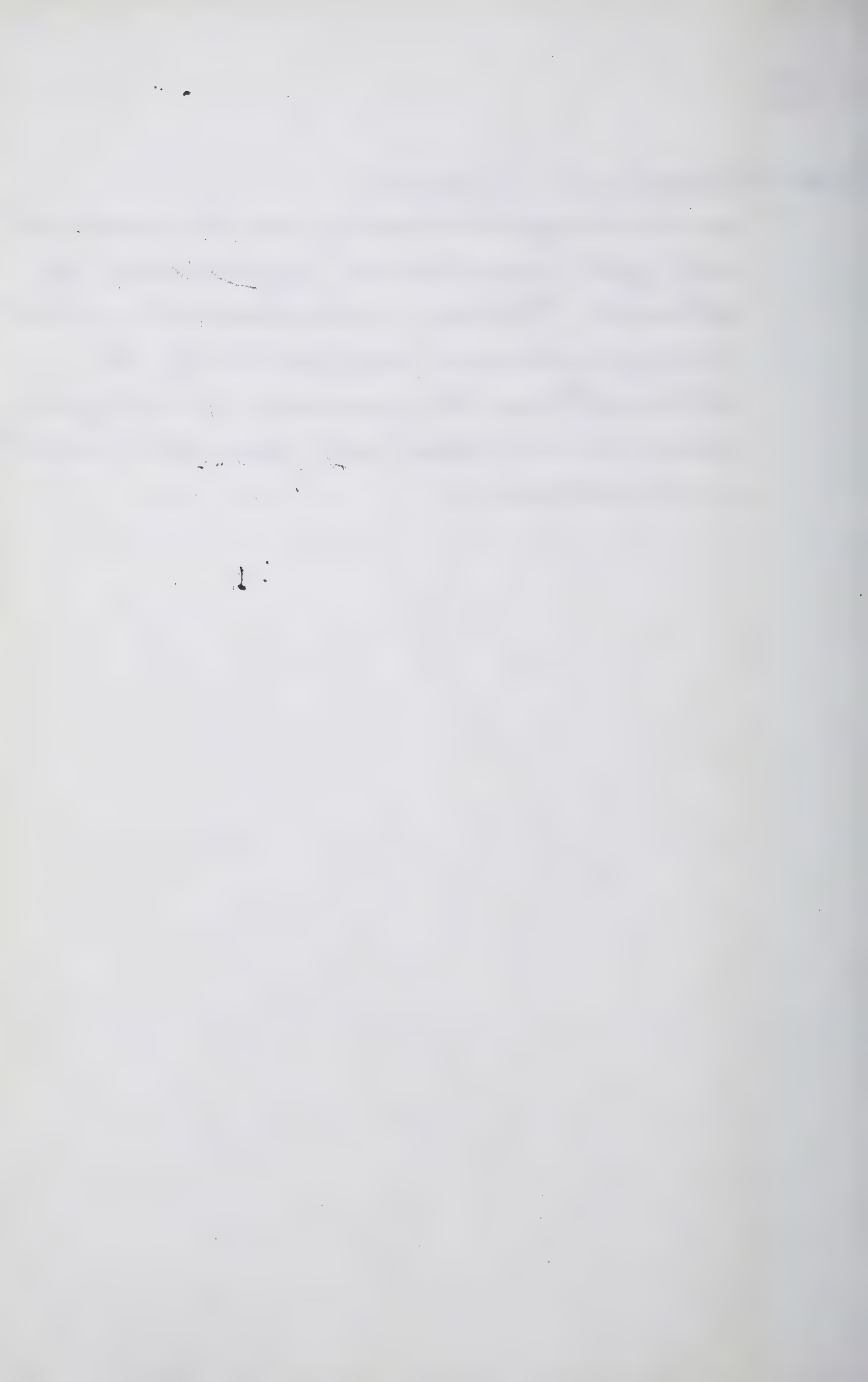
If free interbreeding occurs between nevadae and superciliosa in southern Douglas County, it would appear to occur over a relatively restricted area, with rather striking changes occurring in characters over relatively short distances. Continuity in habitat here is such that superciliosa and nevadae must meet. Apparently, judging from the one specimen obtained, they interbreed, but ~~the~~ ^{questioning concerning} behavior of characters



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1946.

June 25 Douglas Co., Nevada.

in the area of interbreeding can be answered only after a good series of specimens is obtained. Details of considerable interest and significance can probably be obtained from comparisons of intergrading characters between first-year and adult individuals.



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1946

- June 25 Proposed collecting stations in western-central Nevada, with special reference to the problems presented by Aphelocoma:
- (1) Tule Peak, 8700 feet, Virginia Mts., about 32 miles north of Reno.
 - (2) Peavine Peak, 8270 feet, 8 miles northwest of Reno.
 - (3) East slopes of Sierra Nevada bordering Truckee Meadows (along Hunters Creek or Thomas Creek, Carson quadrangle).
 - (4) Spanish Spring Peak, along Cottonwood Creek, Virginia Range.
 - (5) Southern end of Virginia Range, ^{lower} ~~west~~ slopes of Mt. Davidson, near Steamboat Springs.
 - (6) Southern end of Virginia Range, lower east slopes (follow road through Long Valley, NE of Virginia City).
 - (7) Northern Pine Nut Mts (roads through Churchill Canyon or Eldorado Canyon, both reached from highway U.S. 50.)
 - (8) Southern Pine Nut Mts., near Galena Peak (see Markleville quadrangle).
 - (9) Along Carson Valley-Antelope Valley road, in piñon-juniper, vicinity of Double Spring Flat (Markleville quadrangle).
 - (10) Stillwater Mts., in Dalzell Canyon (Wellington quadrangle).

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June 25

Proposed collecting stations, continued:

- (11) East slopes of Sierra Nevada, in suitable area, as lower part of Slinkard's Valley, just west of Antelope Valley (Markleville quadrangle).
- (12) South side of Diamond Valley, Alpine County.

In addition, information concerning distribution and racial affinities of scrub jay is needed from three areas north of the region covered by the foregoing list: (1) Granite Range, reached via Gerlach; (2) The Lake Range; and (3) the Nightingale Range.

Pitelka, F. A.

Catalog nos. 608-612

Local, 1946

Pitelka
1946

Catalog

June 27 Oakland, Alameda Co., Calif.

608 ♂ *Hedymeles melanocephalus* Testis 2 mm. —

Rec'd from Mr. H.W. Carriger on
June 27, 1946; caged bird 19 years old;
prepared as skeleton. "Taken by Henry W.
Carriger at Irvington, Alameda Co., on June
18, 1927. It was just out of the nest and
hopping from branch to branch. Died at
Oakland on June 25, 1946. Was apparently
in perfect health up to the hour of death."
— H.W. Gunnell, information rec'd from H.W.C.

June 24 4 mi. W Biggs, Butte Co., Calif.

609 ♂ *Phasianus* coll. by J. Chatterin 1110 gms.

June 25 6 mi. S Dayton, Butte Co., Calif.

610 ♂ *Phasianus* Coll. by J. Chatterin 1233 gms.

June 25 3 mi. SW Dayton, Butte Co., Calif.

611 ♂ *Phasianus* Coll. by J. Chatterin 1146 gms.

July 26 2 mi. N Calistoga, Napa Co., Calif.

612 ♂ *Elanus leucurus* Testis 7 mm. —

Collected by Mr. J. Perkle

Pitelka, F. A.

Sonora and Sinaloa, Mexico
Oct. - Nov., 1946

Catalog, nos 613-775

Journal

Species accounts
Birds

F. A. PITELKA

Sonora and Sinaloa, Mexico
October-November,
1946

| | | |
|------------------|-------|--------|
| Catalog | pages | 1-8 |
| Journal | | 9-40 |
| Species accounts | | 41-135 |

Pitelka
1946

Catalog

Oct. 2 Santa Ana, 62 mi. S Nogales, Sonora.

613 ♀ *Limnodromus scolopaceus* —

Oct. 4 Empalme, 8 km. E Guaymas, elev. 10 ft., Sonora.

614 ♂ *Lanius ludovicianus*

Sent to Mex. Gov't. —

615 ♂ *Myiarchus cinerascens*

Coll. by
A. S. Leopold —

616 ♀ *Heleodytes brunneicapillus*

Coll. by
A. S. Leopold —

617 ♀ *Zenaida asiatica*

Sent to Mex. Gov't.

Oct. 5

618 ♀ *Centurus uropygialis*

Coll. by A. S. Leopold —

619 ♂ *Dryobates scalaris*

Coll. by A. S. Leopold. —

620 ♀? *Cardinalis Richmondia cardinalis* Coll. by W. C. Russell —

Oct. 13 El Batel, 70 km. NE Mazatlán, 5100 feet, Sinaloa

621 ♂ *Setophaga picta* Testis 3 mm.

9.5 gm

622 ♂ *Troglodytes brunneicollis* Testis 1 mm.

11.5 gm

623 ♀ *Balanosphyra formicivora*

63.8 gm

624 ♂ *Balanosphyra formicivora* Testis 2 mm.

64.8 gm

625 ♂ *Cyanocorax dickeyi* Testis 4 mm.

182. gm

Oct. 14

626 ♂ *Catherpes mexicanus* Testis 2 mm.

15.4 gm.

627 ♂ *Empidonax hammondi* Testis 1 mm.

11.4 gm.

628 ♂ *Aimophila ruficeps* Testis 2 mm.

17.7 gr.

629 ♂ *Aimophila rufescens* Testis 2 mm.

38.5 gr.

630 ♂ *Lepidocolaptes* ^{leucogaster} " 2 mm.

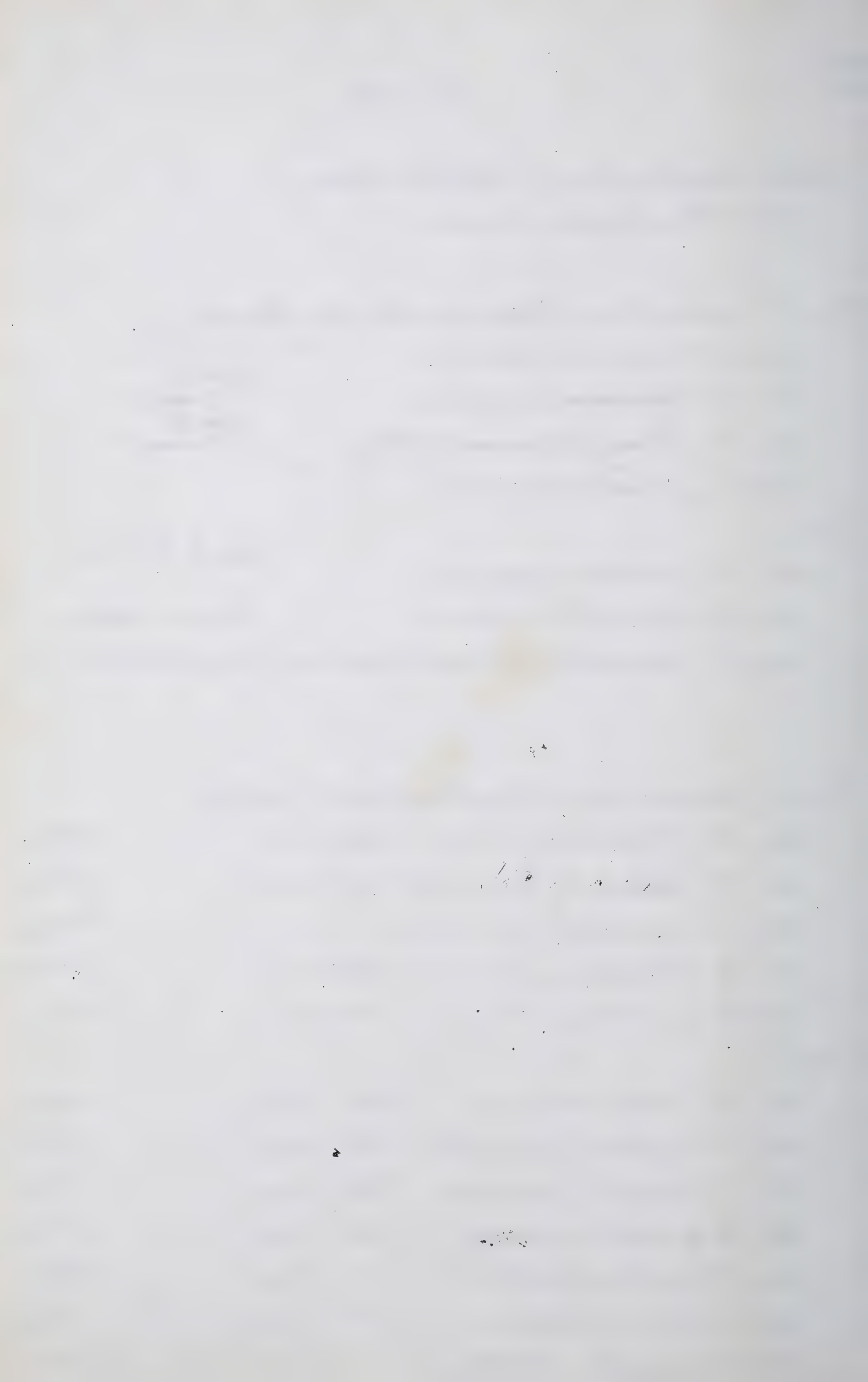
33.7 gr.

631 ♂ *Certhia familiaris* " 1 mm.

8.0 gr.

632 ♀ *Cyanocitta stelleri*

90.1 gr.



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Oct. 14 El Batel, 70 km. NE Mazatlán, 5100 ft., Sinaloa

| | | | | |
|-----|---|---|--------------|-----------|
| 633 | ♀ | <i>Calocitta formosa</i> | | 241.3 gr. |
| 634 | ♂ | <i>Atlapetes pileatus</i> | skeleton | 24.3 gr. |
| 635 | ♂ | <i>Icterus parisorum</i> | Testis 2 mm. | 35.8 " |
| 636 | ♂ | <i>Balanosphyra formicivora</i> | 1 mm. | 60.4 |
| 637 | ♀ | Strix <i>Ciccaba virgata</i> | | 389.0 |

Oct. 15

| | | | | |
|-----|---|---------------------------|--------------------|-------|
| 638 | ♂ | <i>Empidonax hammondi</i> | Testis 1 mm. | 10.6 |
| 639 | ♀ | <i>Cyanocorax</i> | skeleton | 181.0 |
| 640 | ♂ | <i>Cyanocorax</i> | | 194.0 |
| 641 | ♂ | <i>Cyanocorax</i> | Testis 2 mm. | 184.0 |
| 642 | | <i>Cyanocorax</i> | alcoholic specimen | — |

Oct. 16

| | | | | |
|-----|----|-----------------------------------|-------------------|-------|
| 643 | ♂ | <i>Amphispiza ruficeps</i> | Testis 1 mm. | 21.8 |
| 644 | ♂ | <i>Sitta carolinensis</i> | Testis 1 mm. | 19.7 |
| 645 | ♂ | <i>Mitrephanes</i> | Testis 1 mm. | 8.6 |
| 646 | ♀ | <i>Lepidocolaptes leucogaster</i> | | 34.2 |
| 647 | ♀ | <i>Troglodytes brunneicollis</i> | | — |
| 648 | ♂ | <i>Cyrtonyx</i> | Left testis 5 mm. | 172.3 |
| 649 | ♀ | <i>Cyanocorax</i> | | 162.7 |
| 650 | ♀? | <i>Cyanocorax</i> | | 153.7 |
| 651 | ♀ | <i>Cyanocorax</i> | | 189.0 |
| 652 | ♀ | <i>Cyanocorax</i> | | 172.9 |

Oct. 17

| | | | | |
|-----|---|---------------------------|------------------------|------|
| 653 | ♂ | <i>Spizella passerina</i> | Testis less than 1 mm. | 12.8 |
|-----|---|---------------------------|------------------------|------|

Pitelka
1946

El Batel, 70 km. NE Mazatlán, 5100 ft., Sinaloa.

October 18, 1946.

| | | | | |
|-----|---|-------------------------------|------------------------|--------|
| 654 | ♀ | <i>Paranga erythrocephala</i> | | 21.3g. |
| 655 | ♂ | <i>Contopus pertinax</i> | Testis 1 mm. | 27.4 |
| 656 | ♀ | <i>Parus wollweberi</i> | | 9.9 |
| 657 | ♀ | <i>Amphispiza rufescens</i> | | 35.0 |
| 658 | ♂ | <i>Pipilo maculatus</i> | Testis less than 1 mm. | 42.2 |
| 659 | ♀ | <i>Hylocichla guttata</i> | | 27.2 |
| 660 | ♂ | <i>Accipiter striatus</i> | Testis 3 mm. | 96.4 |
| 661 | ♂ | <i>Cyanocorax dickeyi</i> | Testis 3 mm. | 189. |

October 19, 1946

| | | | | |
|-----|---|---|--------------|------|
| 662 | ♀ | <i>Picus auricularis</i> | | 61.7 |
| 663 | ♂ | <i>Campylorhynchus</i> ^{focosus} | Testis 1 mm. | 33.7 |
| 664 | ♀ | <i>Dendroica occidentalis</i> | | 8.6 |
| 665 | ♂ | <i>Campylorhynchus</i> ^{focosus} | Testis 1 mm. | 31.3 |
| 666 | ♂ | " " | Testis 1 mm. | 32.2 |

Oct. 20, 1946

| | | | | | |
|-----|---|-------------------|--------------------|----------------|-------|
| 667 | ♂ | <i>Cyanocorax</i> | adult; skeleton | Testis 4 mm. | 183.3 |
| 668 | ♂ | <i>Cyanocorax</i> | 1st-year; skeleton | Testis 2 mm. | 162.2 |
| 669 | ♂ | <i>Cyanocorax</i> | 1st-year; skeleton | Testis 1.5 mm. | 167.5 |
| 670 | ♀ | <i>Cyanocorax</i> | | | 178.0 |
| 671 | ♀ | <i>Cyanocorax</i> | | | 160.4 |
| 672 | ♀ | <i>Cyanocorax</i> | | | 162.0 |

Oct. 21, 1946

| | | | | |
|-----|---|----------------------------------|----------------|------|
| 673 | ♀ | <i>Basileuterus rufifrons</i> | | 9.8 |
| 674 | ♂ | " | Testis ~ 1 mm. | 10.0 |
| 675 | ♀ | <i>Troglodytes brunneicollis</i> | | 12.0 |

El Batel, 5100 ft., SinaloaOct. 22, 1946

676 ♂ *Cyanocorax* Testis 5 mm. 178.2g.

Pitahaya, 40 km. SE Empalme, 100 ft., SonoraOct. 28, 1946

677 ♂ *Ammodramus*^{savannarum} 1 Testis 2 mm. —

678 ♂ *Auriparus* Testis 1 mm. —

679 ♀ *Vermivora celata* 9.0gr.

680 ♂ *Richmondena* Testis 2 mm. 44.5

681 ♂ *Lophortyx gambeli* Testis 4 mm. 161.3

Oct. 29, 1946

682 ♂ *Chondestes grammacus* Testis 1.5 mm. 28.6

683 ♀ *Zonotrichia leucophrys* Sent to Mex. Gov't 26.4

684 ♂ *Aimophila carpalis* Testis 3 mm. 15.9

685 ♂ *Aimophila carpalis* Testis 1.5 mm. 13.7

686 ♀ *Aimophila carpalis* 15.5

687 ♀ *Spizella breweri* Sent to Mex. Gov't. 9.8

688 ♀ *Spizella breweri* 10.5

689 ♂ *Centurus uropygialis* Testis 2 mm. 68.0

Oct. 30, 1946

690 ♀ *Polioptila caerulea* 5.3

691 ♂ *Polioptila* " Testis 1 mm. 6.3

692 ♂ *Passerculus*^{s. nevadensis} 1 Testis 1 mm. 17.3

693 ♂ *Heleodytes*^{brunneicapillus} 1 Testis 1 mm. 38.2

694 ♀ *Pyrruloxia sinuata* 31.8

695 ♂ *Centurus uropygialis* Testis 2 mm. 66.0

696 ♂ *Parabuteo unicinctus* Testis 7 mm. Immature plumage; Skeleton 751.0



Pitahaya, 40 km. SE Empalme, 100 feet, Sonora.

Oct. 31, 1946

| | | | | |
|-----|---|-----------------------------|---------------|---------|
| 697 | ♂ | <i>Calyptr. costae</i> | Testis .5 mm. | 3.4 gr. |
| 698 | ♀ | <i>Aimophila carpalis</i> | | 15.4 |
| 699 | ♀ | <i>Spizella breweri</i> | skeleton | 10.0 |
| 700 | ♀ | <i>Dryobates scalaris</i> | | 28.1 |
| 701 | ♂ | <i>Pyruloxia sinuata</i> | Testis 1 mm. | 36.4 |
| 702 | ♀ | <i>Carpodacus mexicanus</i> | | 16.8 |

November 1, 1946

| | | | | |
|-----|----|---|------------------------------------|-------|
| 703 | | <i>Phrynosoma</i> | | — |
| 704 | ♀ | <i>Aimophila carpalis</i> | | 14.4 |
| 705 | ♀ | <i>Aimophila carpalis</i> | | 14.1 |
| 706 | ♂ | <i>Aimophila carpalis</i> | Testis .5 mm. | 13.5 |
| 707 | ♂ | <i>Aimophila</i> ^{<i>carpalis</i>} 1 | Testis 5.5 mm.; parent of 704-706. | 15.2 |
| 708 | ♀ | <i>Aimophila carpalis</i> | } pair skeleton | 14.4 |
| 709 | ♂ | <i>Aimophila carpalis</i> | | 15.5 |
| 710 | ♀ | <i>Lophortyx gambeli</i> | | 142.3 |
| 711 | ♂ | <i>Lophortyx gambeli</i> | Testis 3 mm. | 157.0 |
| 712 | ♀ | <i>Spizella breweri</i> | Very fat | 11.9 |
| 713 | ♂? | <i>Spizella pallida</i> | Fat. | 11.3 |
| 714 | ♂? | <i>Pyruloxia sinuata</i> | | 58.5 |
| 715 | ♀ | <i>Centurus uropygialis</i> | Sent to Mex. Gov't. | 59.3 |
| 716 | ♀ | <i>Centurus uropygialis</i> | | 59.6 |
| 717 | ♀ | <i>Colaptes chrysoides</i> | | 104.2 |

Nov. 2, 1946

| | | | | |
|-----|---|--|---------------------|------|
| 718 | ♂ | <i>Toxostoma</i> ^{<i>curvirostre</i>} 1 | Testis 2 mm. | 78.4 |
| 719 | ♀ | <i>Sturnella neglecta</i> | Sent to Mex. Gov't. | 82.8 |
| 720 | ♂ | <i>Megasceryle alcyon</i> | | — |

Pitahaya, 40 Km. SE Empalme, 100 feet, Sonora.

November 2, 1946

| | | | |
|-----|-----------------------------------|-------------------------------------|---------|
| 721 | ♂ <i>Geothlypis trichas</i> | | 9.4 gr. |
| 722 | ♂ <i>Geothlypis trichas</i> | Sent to Mex. Gov't. Testis 1 mm. | 8.7 |
| 723 | ♂ <i>Carpodacus mexicanus</i> | Testis 2.5 mm. | 15.4 |
| 724 | ♂ <i>Myiarchus tuberculifer</i> | Testis 1 mm. | 14.0 |
| 725 | ♀ <i>Amphispiza bilineata</i> | | 12.6 |
| 726 | ♀ <i>Passerculus s. rostratus</i> | | 16.2 |
| 727 | ♂ <i>Myiarchus cinerascens</i> | Testis 2 mm. | 29.0 |

November 3, 1946

| | | | |
|-----|-------------------------------------|--------------|------|
| 728 | ♂ <i>Troglodytes aedon</i> | Testis 1 mm. | 9.4 |
| 729 | ♂ <i>Dendroica nigrescens</i> | Testis 1 mm. | 10.0 |
| 730 | ♀ <i>Phainopepla nitens</i> | | 24.0 |
| 731 | ♀ <i>Heleodytes brunneicapillus</i> | | 34.6 |
| 732 | ♂ <i>Toxostoma curvirostre</i> | Testis 2 mm. | 78.2 |
| 733 | ♂ <i>Toxostoma curvirostre</i> | Testis 3 mm. | 80.9 |

Casita, 40 km. S Nogales, 3300 feet, Sonora

November 6, 1946.

| | | | |
|-----|------------------------------|---------------------|------|
| 734 | ♀ <i>Vireo huttoni</i> | | 10.3 |
| 735 | ♂ <i>Amphispiza ruficeps</i> | Testis 1 mm. | 20.0 |
| 736 | ♂ <i>Amphispiza</i> " | Testis 1 mm. | 19.8 |
| 737 | ♂ <i>Amphispiza</i> " | Testis 1 mm. | 21.5 |
| 738 | ♀ <i>Spizella breweri</i> | | 11.6 |
| 739 | ♂ <i>Parus wollweberi</i> | Testis 1 mm. | 10.2 |
| 740 | ♂ <i>Psaltiriparus</i> | Testis 1 mm. | 5.0 |
| 741 | ♀ <i>Thryomanes bewickii</i> | Sent to Mex. Gov't. | 9.0 |
| 742 | ♂ <i>Pipilo fuscus</i> | Testis 1 mm. | 45.7 |
| 743 | ♀ <i>Sphyrapicus varius</i> | | 47.9 |

Casita, 40 km. S Nogales, 3300 feet, Sonora.

November 6, 1946

| | | | | |
|-----|---|---------------------------|--------------|-------|
| 744 | ♂ | <i>Piranga flava</i> | Testis 1 mm. | 39.8 |
| 745 | ♀ | <i>Sphyrapicus varius</i> | | 44.5 |
| 746 | ♂ | <i>Dryobates arizonae</i> | Testis 2 mm. | 50.7 |
| 747 | ♀ | <i>Colaptes cafer</i> | | 113.9 |
| 748 | ♂ | <i>Aphelocoma</i> | Testis 4 mm. | 133.0 |

November 7, 1946

| | | | | |
|-----|---|---------------------------------|--------------|------|
| 749 | ♂ | <i>Balanosphyra formicivora</i> | Testis 3 mm. | 67.4 |
| 750 | ♀ | <i>Sturnella neglecta</i> | | 89.2 |

November 8, 1946

| | | | | |
|-----|---|-------------------------|---------------------|-------|
| 751 | ♂ | <i>Junco oreganus</i> | Testis 1 mm. | 18.7 |
| 752 | ♀ | <i>Pipilo maculatus</i> | Sent to Mex. Gov't. | 37.9 |
| 753 | ♀ | <i>Pipilo maculatus</i> | | 40.0 |
| 754 | ♂ | <i>Pipilo fuscus</i> | Testis 1 mm. | 45.8 |
| 755 | ♂ | <i>Pipilo maculatus</i> | Testis 1 mm. | 49.0 |
| 756 | ♀ | <i>Pipilo fuscus</i> | | 41.0 |
| 757 | ♂ | <i>Aphelocoma</i> | Testis 3 mm. | 130.5 |

November 9, 1946

| | | | | |
|-----|---|---|----------------|------|
| 758 | | | | |
| 758 | ♂ | <i>Pipilo maculatus fuscus</i> | Testis 2 mm. | 40.0 |
| 759 | ♂ | <i>Pipilo maculatus</i> | Testis 1.5 mm. | 40.2 |
| 760 | ♂ | <i>Pipilo maculatus</i> | Testis 1 mm. | 42.4 |
| 761 | ♂ | <i>Pipilo maculatus</i> | Testis 2 mm. | 44.4 |
| 762 | ♀ | <i>Pipilo maculatus</i> | | 38.4 |
| 763 | ♀ | <i>Pipilo maculatus fuscus</i> | | 42.9 |
| 764 | ♀ | <i>Pipilo maculatus fuscus</i> | | 47.4 |
| 765 | ♂ | <i>Pipilo fuscus</i> | Testis 2 mm. | 47.0 |
| 766 | ♂ | <i>Psaltirparus</i> | Testis 1 mm. | 5.0 |

Casita, 40 km. S Nogales, 3300 feet, Sonora.

November 9, 1946

| | | | | |
|-----|---|-----------------------------|----------------|--------|
| 767 | ♂ | <i>Psaltiriparus</i> | Testis 0.5 mm. | 5.0 gr |
| 768 | ♂ | <i>Thryomanes bewickii</i> | Testis 1 mm. | 9.5 |
| 769 | ♂ | <i>Catherpes mexicanus</i> | Testis 1 mm. | 11.5 |
| 770 | ♀ | <i>Sitta carolinensis</i> | | 16.2 |
| 771 | ♀ | <i>Junco oreganus</i> | | 15.9 |
| 772 | ♂ | <i>Junco o. mearnsi</i> | Testis 1 mm. | 18.0 |
| 773 | ♀ | <i>Aphelocoma</i> | | 131.8 |
| 774 | ♂ | <i>Carpodacus mexicanus</i> | Testis 1 mm. | 18.0 |
| 775 | ♂ | <i>Dryobates scalaris</i> | Testis 2 mm. | 33.0 |

Journal

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Journal

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Sept. 30 Left Berkeley with G. S. Leopold and W. C. Russell for Mazatlán, Sinaloa, travelling by M.V.Z. Dodge truck. Followed route south through San Joaquin Valley to Bakersfield, thence over Tejon Pass, thence eastward, between the southernmost Sierra Nevada and the San Gabriel-San Bernardino ranges, to the Barstow-Victorville-San Bernardino Road, thence southward to San Bernardino and eastward to Indio, where we spent the night.

Open, more or less flat region between the Sierra Nevada and the San Gabriel Mts. east of Tejon Pass is farmed to a large extent, but in certain areas, abruptly outlined, there are extensive stands of Joshua trees and junipers. The breeding avifauna of these areas would merit investigation.

Oct. 1. ^{from Indio eastward} Proceeded, through Blythe on the Colorado River, Salome and Phoenix, thence southward to Tucson where we spent the night. Visited Sheffler's "zoo" at Salome; it is made up chiefly of a extensive variety of psittaciforms - a really impressive collection. In addition, the collection includes a variety of of ducks, caracaras, Crax, ravens, owls, etc. There was one Aphelocoma that appeared to have come from the San Joaquin Valley.

Oct. 2 Proceeded from Tucson southward to Nogales, where we spent between 2 and 3 hours getting across the border. Then continued southward to Hermosillo where we spent the night. Road of rough gravel for the most part and broken frequently by small

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Oct. 2 detours around washouts and uncompleted bridges. We travelled through oak woodland for about 15 miles south of Nogales; the woodland made its appearance abruptly just beyond the border. Southward, there were scattered stands of creosote bush, but the main vegetation was a mesquite scrub. We observed large numbers of western kingbirds apparently in migration.

Nighthawks and Turkey Vultures, also apparently migrants, were also seen in good numbers.

An injured nighthawk was picked up along the road (see Russell's catalog for locality), and Russell collected a brown towhee, a Say phoebe, and an immature long-billed dowitcher, the last a lone individual associated with a small flock of 'peeps', probably western sandpipers, and feeding in a muddy shallow pool along the road. Also saw vermilion flycatchers, black vultures, Audubon caracaras.

Oct. 3 Travelled from Hermosillo to Guaymas, reaching the latter after 11 A.M. The road between these two points was better than that over which we travelled yesterday; it extends over long stretches in a straight line, the stretches seeming to be longer than those of Nevada roads. We ^{gradually} left the mesquite scrub outside of Hermosillo and passed into a desert scrub which continued to the ocean. In Guaymas we contacted the American consul, Mr. Webster, and then proceeded

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Oct. 3 to make arrangements for our departure southward by rail on the following day.

Guaymas, itself an unattractive city, is located on a beautiful, well-enclosed bay which provides an excellent harbor. To the south of the city, in the bay, is a small rocky island covered with a dense growth of organ-pipe cactus, a type which occurs only scatteredly on the nearby neighboring hills, or the entire region for that matter. The island is inhabited by a colony of cormorants, apparently P. auritus, and it would appear that the growth, ^{and abundance} of the cactus is related to the guano deposited by the birds. Parts of the plants used as perches and much of the visible ground was ^{covered} white with guano. We observed willets, Heerman gulls, green heron, great blue heron, brown pelicans.

Oct. 4 Left Guaymas by rail for a short distance, 7 km. or so, southeastward to Empalme about 7 in the morning, to a junction with the main ^{A.R.} line from Hermosillo southward. Here we boarded our pullman car, but soon learned that departure would be delayed because of a wash-out on the r. r. track on this side of the Rio Yaqui and in Ciudad Obregon. In the night there was a heavy thunderstorm which continued south of us long after it had subsided at Guaymas. In the late afternoon we hunted on the flats north of the station along the

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- Oct. 4 railroad tracks. White-winged doves, mourning doves, a *Myiarchus* flycatcher, loggerhead shrikes, cactus wren, were collected.
- Oct. 5 Still detained in Empalme. Leopold and Russell went collecting and obtained 2 cardinals, a gila woodpecker, a cactus woodpecker, a wren (probably Bewick), a thrasher (*bendirei*), a Lucifer hummer, a shrike, and a mourning dove.
- Oct. 6. Spent most of the morning walking ~~around~~ ^{along the} bay-shore near Empalme. Saw cormorants, osprey, and juvenal American Egret. Returned to the r.r. station near noon time. The train left shortly after our return, proceeded as far south as the Rio Yāgui, and after an hour or two of waiting, we returned to Empalme for the night.
- Oct. 7. Left Empalme again at about 8 in the morning, but this time proceeded over the newly laid tracks over the Rio Yāgui and in Ciudad Obregon.
- Oct. 8 Travel southward continued; reached Culiacán at noontime and Mazatlán late in the evening.
- Oct. 9 Made preparations to leave Mazatlán by truck today, but were forced to wait a day at least because our baggage hadn't arrived from Empalme yet.
- Spent time both last night and today talking to J. F. Ferreira, a resident Portuguese who speaks English well. Up to the time of the recent war, his business was leading and maintaining hunting trips for wealthy Americans mainly in Sinaloa.

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Oct. 9 His specialty was tigers, and he apparently knows a good deal about their natural history. He is the man who obtained the single specimen of Cyanocorax dickeyi now in the American Museum. This was collected by him during a field trip which he led for the American Museum with a man named Green (sp.?). Ferreira proved to be an excellent contact. He put us into touch with Victor Patron, a member of a Mazatlán gold mining firm who was familiar with the country into which we wanted to go.

Oct. 10 Spent some time walking along shore outside of the Hotel Delmar, where we stayed, and took a series of color shots. Observed three long- and narrow-winged, fork-tailed, large brown birds with white heads, which flew gracefully over the breaking waves and dived intermittently. Could not identify them. Also saw Brown Pelicans, Great-tailed Grackles, a single Bell Vireo that sang repeatedly in a small grove of trees, some gulls and terns about whose identity I could not be sure, and the usual black and turkey vultures. The turkey vulture is relatively uncommon and became increasingly so as we progressed southward.

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Oct. 10 We left Mazatlán near noon time and proceeded northeastward to Panuco, which was as far as the truck would take us. Panuco is a small village nestled in a small bowl to one side of the Rio Panuco at 2400 feet; it is the site of the gold mine run by the Patrons.

Oct. 11 We were unable to leave Panuco today because not enough pack animals were available.

Observed Catherpes mexicanus, apparently resident, and Oporornis tolmiei and Wilsonia pusilla, both migrants. Parrots, parakeets, and macaws flew overhead at various times during a stay in Panuco; and Starker collected one magpie jay (Calocitta).

Oct. 12 We left Panuco at about 7 a.m. and followed the road to Santa Lucia and El Batel at approximately 5000 feet. On passing Santa Lucia, we approached El Batel, but turned up a draw through which the projected Durango-Mazatlán road has been layed out. We unpacked the mules at about 3 p.m. and spent the remainder of the day establishing camp.

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Oct. 13 El Batel, 70 km. NE Mazatlán, 5100 feet, Sinaloa

Camp is located along a stream in a draw facing more or less west, ^{about} ~~the~~ 2 miles east of Santa Lucia. We are situated on an old log trail along the stream. The main trail, the future Mazatlán-Durango "road," is about 100 feet below camp. The vegetation is apparently all second growth; it is quite dense along the streams, but on the slopes and ridges has the general aspect of a woodland. At least one species of long-needled pine; several species of oak, and, ^a madrone are predominant. The quantity of epiphytic growth on the trees together with the abundant moisture and persistent clouds about nearby peaks all suggest that the woodland here might be a marginal example of the more luxuriant and typical cloud forests to the south. Leopold states the vegetation here reminds him of similar woodland on Mt. Tancitaro in Michoacán.

This morning I followed the main trail upward and more or less eastward for a half mile or less to a pass ^{through} ~~along~~ a high ridge separating two river drainage systems, the Rio Panuca and the Rio de Buluarte, the head of which is just to the east of us over the ridge. The main trail ^{eastward} leads to Los Ocotés in the valley of the Buluarte.

Patelka
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Oct. 13 El Batel, 70 Km. NE Mazatlán, 5100 ft., Sinaloa

From the pass I turned northward along a shallow draw. Birds observed included Acorn-storing woodpeckers (common), painted redstart, (common), a wren of uncertain identity (common), Wilsonia pusilla (migrant), Hylocharis leucotis (fairly common), Parus wollweberi (one flock of 8 or 10), Dendroica auduboni, Corthylio calendula, Sialia mexicana (a small flock flying overhead), Certhia familiaris, and Cathartes aura. A pair of macaws and ^{later} a small flock of parrots flew overhead. In addition there were birds glimpsed momentarily and calls heard once or more which were unidentified. Several groups of small birds were noticed; with the titmice, for instance, were at least one creeper, some warblers, and a small vireo, heard only, and identical in sound with our Californian V. huttoni. Several times the song of V. solitarius was heard, but the birds themselves were not seen. It is not possible to follow up each sound, nor to collect without thought of losing the specimen, because of the roughness of the country — steep slopes, loose brush piles, deep-cut canyons, etc.

The vegetation presents an interesting mixture of elements ^{of type} occurring in our Californian woodlands, some from the eastern U.S.

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Oct. 13 El Batel, 70 km. NE Mazatlán, 5100 ft., Sinaloa
and others undoubtedly peculiar to the Mexican mountains. Shrubs of Rubus (blackberry), Rosa, ^{and} the madrone suggest Californian woodlands; the oaks are of kinds not occurring in California, large-leaved, more open, and taller trees; the pines are long-needled, the needles drooping gracefully. Poke-berry plants are common and suggest the deciduous forest margins. Mixed in are many strange species of undoubted southern affinity, as bush-composites, the epiphytic growths of bromeliads, orchids, lichens, and mosses, and several species of trees, including an acacia.

None of us saw any sign of Cyanocorax dickcyei, though the type locality is in full view west of us from the hillside a short distance above camp. I met a young Mexican with whom I tried to converse, but was able to learn only that the "huaracas blanca y azul" occurred "arriba." Later Starker spoke to him and arranged to have him collect quail jays, and a few other species which we particularly want. In the late afternoon, the Mexican — Alberto Labrador — brought in two ^{Dickey jays}, and said he'd obtained them along the ridge above our camp. They are indeed spectacularly colored birds.



Oct. 14 El Batel, 70 km. NE Mazatlan, 5100 ft., Sinaloa

Stayed in camp today because of illness — another attack of bacillary dysentery apparently. Collected an Empidonax flycatcher and Catherpes mexicanus in camp. Of the remaining specimens prepared, the large Aimophila and the Steller jay were collected by Russell; the small Aimophila, the woodhewer, Certhia, the small green and yellow, red-capped fringillid, and the Scott Oriole were collected by Leopold; and the Calocitta, Bulorophya and Strix were collected by Alberto. He obtained both the jay and the owl below camp; the jay occurs around the borders of the cleared lands. The owl was obtained in a dense, ^{virgin} stand of trees.

Oct. 15. Stayed in camp again. Of specimens prepared, the Empidonax was collected by Leopold; the jays include specimens collected by Leopold and Alberto.

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Oct. 16 El Batel, 70 km. NE Mazatlán, 5100 feet, Sinaloa.

Hunted this morning around first high point south of the pass. Birds not numerous, one reason among other probable ones being the fact that the sky cleared early and activity subsided in mid-morning. Collected a wren ^{= Troglodytes brunneicollis} (Thryothorus?), a small buffy flycatcher ^{= Mitrephanes} (Empidonax?), a white-breasted nuthatch, a woodhewer, an Ammodramus sparrow (probably ruficeps), and a male Mearns's quail. The last mentioned was with a female and a group of at least 3 or 4 young more than half grown, and was taken when he came back toward me, feigning injury, possibly in response to my squeaking. All hunting was done within oak-pine woodland of varying degrees of openness.

The high point, mentioned above, provided a spectacular view to the east ^{into Durango} and around to the west ^{to the coast}. To the east, two major ranges could be seen. There were many exposed vertical rock faces, and the general ^{extensive} ruggedness of the landscape exceeded anything I had seen earlier.

Oct. 17 Stayed in camp to finish skinning specimens I obtained yesterday and to prepare skins of the remaining pairs collected by Leopold and Alberto. The Spezella prepared under today's date was collected by Leopold.

Pitelka
1946

Oct. 17

El Batel, 70 Km. NE Mazatlán, 5100 feet, Sinaloa

The need to stay in camp to clear up remaining material arose from interruption of our work yesterday afternoon by a thunderstorm which lasted over an hour. We had had a light rain ^{during} ~~on~~ the previous afternoon, and we had another this afternoon which continued into the dark. Everything is damp, soggy, or wet. Specimens are drying very poorly. Practically all the birds, by the way, are in late stages of molt; the tender skins holding partially grown feathers, sheathed basally, adds to the problems of skin preparation.

Pitelka
1946

Oct. 18 El Batel, 70 km. NE / Mazatlán, 5100 feet, Sinaloa

Hunted along the ridge above camp, continuing along a cow trail to the other side of the main ridge and out onto a prominent point from which one could look down to the Rio Buluarte. Birds were quite active, in part probably because of clearing weather after 3 successive afternoons of rain. Several very large flocks of small passerines were met, these consisting of a large variety of warblers, ^{and} titmice ^{and} creepers.

Oct. 19 Hunted in the vicinity of the pass and to the north.

Oct. 20 Spent most of the morning taking photographs and collecting plant specimens. Jays prepared in the afternoon were brought in by Alberto Labrador.

Oct. 21 Returned to the high ridge above camp to attempt to locate Cyanocorax, but without success. Most of the morning was spent there investigating the main draws as they begin to drop off the ridge. Bird life was not very much in evidence, the most frequently ^{by far} seen species being the acorn-storing woodpecker, Empidonax flycatchers (probably all migrants), painted redstart, and a small wren. The ^{small} local wrens have puzzled me repeatedly, as the notes heard suggested that there might be two species — a house wren, almost certainly migrant, and the more brown kind with a rolling call very much like that of

Oct. 21 El Batel, 5100 ft., Sinaloa.

a rock wren. Today Leopold and I each collected a wren, and the two differed distinctly; the locally resident species is in late molt.

The last three days, after three successive afternoons of rain, have been warmer and drier, although by early afternoon, the clouds began to roll in from the west as they have every day since we have been here. At any rate, the calm weather conditions seem to have led to reduced local activity among birds. Earlier, after the rains, not only did there appear to be more feeding activity among the local species, but the number of migrants was greater. Few things are in song now — the solitaire, the small yellow-throated red-cap (^{= *Basileuterus rufifrons*} *compsothlypid*?), the painted redstart, and occasionally ^{and only briefly,} the blue mockingbird.

According to Alberto Labrador, the rains continue here intermittently into January and February, during which months there may be occasional snow. Then the dry season begins and continues to the end of May. The rainy season, and the breeding period of the local avifauna as well, begins in early June. The rainy season apparently continues through September. That this generalization with respect to breeding season applies to most species is indicated by the fact that now, in mid-October,

Oct. 21 El Batel, 5100 ft., Sinaloa

we have found most of the local residents in late stages of molt.

Oct. 22 Stayed in camp while Russell went collecting and Leopold went down to check on arrangements for our trip back to Mazatlán. Russell returned to camp with six Ganocorax and a male Dryobates arizonae. While he and I were busy with the first few jays, Leopold returned and informed us we were to begin packing promptly. By one o'clock or so camp was broken up and our equipment ready for the pack animals. Alberto came up to camp around two, and in three trips, hauled everything down to a lumber road near his home. Here we loaded our equipment aboard a truck carrying freshly cut logs to a sawmill, ^{"Asseradera,"} below "La Petaca." We arrived here about six and left ^{at 8:30 or so} on top of truck loaded with small pieces of cut lumber. We rode all night — had

Oct. 23 a flat around midnight — and arrived in Villa Unión about 7 a.m. Two hours or so later we were in Mazatlán. The ride out of the mountains was a rough, dangerous, and gruesome experience!

Oct. 24 Left Mazatlán on the "mexico" at about 11 a.m.

Oct. 25 Arrived in Guaymas mid-morning.

Oct. 26 Left Guaymas with the truck, heading south toward Ciudad Obregon. Discussion with Mr. Webster and a Mr. Swift of Obregon yesterday led Leopold to decide that we might best proceed all the way to

Oct. 25 Enroute to Ciudad Olregon and Return.

that city and with further help there from local residents, try to locate a good collecting site in the Yaqui Valley below Olregon. We left ~~Olregon~~ ^{insigne} and travelled 56 kilometers to Colonia Irrigacion, in the direction of the coast line, where we were to find a series of lagunas in the vicinity of which suitable camp sites were supposedly to be found. Much of the valley is under cultivation, the main crop apparently being rice. A large portion of the valley is irrigated, and the area is a concentration center for waterfowl. We did not find any lagunas, and according to a local resident, the main duck flights had not occurred yet. Under these circumstances, it was decided that we would return to Olregon and head back for the Rio Yaqui proper with the hope of finding a camp site to the north of the ^{main} rice growing area, between it and the Rio. We reached the Rio Yaqui after dark and spent the night along its shore. (See next page.)

Oct. 26 In the morning we learned from local Mexicanos that there was no road ^{immediately} south of the river and more or less paralleling it. We then returned as far as Vicam, with the hope of learning through a friend there, Mr. J. Dedrick, whom we had met on the train going south at Empalme, about roads and possible collecting sites on the

Oct. 26 Enroute to Ciudad Obregon and Return.

The valley of the Rio Yaqui is a large alluvial fan, apparently old as the river itself is more or less confined to the northern edge of the valley, and there is but one more main river bed, that of the Rio Muerte, but this is unimportant. A large irrigation ditch diverts most of the water from the river above Obregon and leads it into the rice fields, which occupy perhaps a third, or less than half of the entire valley. Along the road we travelled, to Irigacion, there were extensive tracts of uncleared, but varyingly grazed scrub consisting of ~~several~~ ^{various} cacti and a number of thorn shrubs. This vegetation suggests that the valley flat was built up high enough to support a type which is probably climax, or at least fairly close to it. Probably diverting of the river water has had some effect on the valley flora, and the long-time grazing has also had some influence; but it does not seem that the changes have been such as to ~~bring~~ ^{bring} about an entirely secondary vegetation. The significance of this point is that the Rio Yaqui valley does not now, nor has it probably ^{in valleys to the south.} in the recent past, supported any subtropical vegetation such as occurs

Oct. 27 Pitahaya, 40 km. SE Empalme, 100 ft., Sonora.

north side of the river. While we found some interesting areas of mesquite forest with exceptionally large trees, these were some distance from the river. Nearer the river were habitations and along it at most points where we saw it there were large fields of carrizo. Scattered here and there were groves of large poplars which apparently were but small remnants of what was probably a fairly luxuriant riparian vegetation. We found no suitable or interesting collecting and camping sites along the river, and Leopold apparently would not consider a dry camp. We returned to Vicam and decided to leave the Rio Yaqui. Mr. Dedrick accompanied us during our travel near Vicam. He is a missionary working with the Yaqui Indians and attempting, with apparent success, ~~to~~ both teach them to read and write and to record the language.

From Vicam, we proceeded north toward Empalme, with the intention of locating a laguna Leopold had seen from the train on our return trip north, and establishing camp near it. It was marked well in the road by a large detour, and we found it without much difficulty. We found a suitable camp site late in the afternoon.

Oct. 28 Pitahaya, 40 km. SE Empalme, 100 feet, Sonora.

Last nite, we had an intermittent but strong rain. The day has been warm and muggy. Hunted south of camp through scrub and along thickets bordering the "laguna," which might best be called a temporary slough. Camp is located on a point extending out into it along its south ^{east} border. The slough itself, cut about midway by the railroad, is approximately $1\frac{1}{2}$ miles long and $\frac{1}{4}$ to $\frac{1}{2}$ mile wide. There is extensive growth of a leguminous shrubby plant which Leopold calls Cassia. The slough is bordered by flats, muddied by recent rains, and the area of the slough probably is just one extensive dry mud flat in the spring and early summer. There is enough water now so that the laguna is attractive to waterfowl, and we have seen several large flocks of pintails, shovellers, and probably other species. There is also a variety of shorebirds.

The land birds seem to be preponderantly migrants — sparrows, warblers, Orioles, green-tailed towhees, house wrens, etc. Species which are ^{more or less} common and probably resident are mockingbird, verdin, gila and ladder-backed woodpeckers, gilded flickers, rufous-winged sparrows, and Gambel Quail. Also cardinals and pyrrhuloxias.

Oct. 29 Pitahaya, 40 km. SE Empalme, 100 feet, Sonora.

Hunted just south of camp along the margin of the slough. Mocking birds are very numerous; migrant flocks of sparrows, mainly *Chondestes*, *Zonotrichia*, and *Spizella breweri*, occur sporadically.

Oct. 30. Hunted around the west end of the slough.

New species seen today were Helodytes, Parabuteo, Passerculus, all collected, and Dendroica townsendi. Anser albifrons, 9 yesterday, 15 today, was observed on several occasions flying along the slough.

Oct 31 Stayed in camp, hunting only briefly nearby, mainly to catch up on note-writing. Judging by Van Rossem (1945), the local hummers, seemingly made up mainly of females and young birds, should be *Calypte costae*. A young male collected today proved to be of this species. It is possible that there are adult males present, but that they do not pass into the nuptial plumage as directly as does C. anna.

In the past four days, Leopold's and Russell's concentration on the ducks have yielded a list of 8 species, most all of them collected. A few ^{large} groups of ducks apparently remain on the slough during the day, but a larger total number leaves ^{early} in the morning, flying

Oct. 31

Pitahaya, 40 km. SE Guaymas, 100 feet, Sonora.
southwestwardly, and returns from the same direction just before dark. Tonight's return flight was appreciably larger than that of the previous evenings.

We have observed an almost daily increase in the number of shore-birds on the slough, but many of them have passed unidentified. Most of them are out in the middle of the slough, feeding in shallow water, and approach through the slushy water-covered ^{and exposed} margin is not feasible.

Nov. 1

This morning I crossed over to the north side of the slough and hunted east of the railroad tracks. Here the mesquite was much better developed, the upland vegetation being made up mainly of mesquite trees as high as 10-14 feet, spaced so that their peripheries were several yards apart. Between the trees, grasses ^{of at least two genera} were the dominant ground cover. Additionally, there were scattered cacti and shrub thickets of the kind prevalent along the south shore, southwest of camp. Chickens, house finches, rufous-winged sparrows, and pyrrhuloxias were more abundant here than in the sparser, more cactus dominated scrub south of camp. Today I realized that we have been collecting either two migrant spizellids or, what seems less likely,

- Nov. 1 Pitahaya, 40 km. SE Empalme, 100 feet, Sonora.
 Juvenal and adult plumages of one species,
S. breweri. Considerable time was spent in
 the study of the rufous-wing, Amniophila carpalis,
 the species account for which see.
- Nov. 2 Returned to the north side of the slough to hunt.
 Birds very active and abundant this morning,
 the local population being augmented by an
 influx of migrants. Geothlypis, Passerina amoena
 (several seen), ^{more} spizella and crown sparrows,
 including a black-throated sparrow (collected) in
 one of the flocks, Myiarchus ^{and warblers (Vermivora and Dendroica)}, all appeared today.
 The yellow throats ^{were} particularly abundant.
- Nov. 3 Returned again for a brief hunt on the north side
 of the slough. The weather turned cold last night,
 and apparently most of the migrants present
 yesterday left. Geothlypis and Passerina
amoena were noted again. Numbers of ducks
 on the slough have fallen off in the past
 few days, ^{in part} possibly due to the repeated shooting.
 Leopold and Russell observed a pair of Anser
albifrons briefly this morning.
- Nov. 4 Broke camp and headed northward to Empalme,
 Guaymas, and
 Hermosillo. Camped about 70 miles north of
 Hermosillo.
- Nov. 5 Continued northward to Casita about 40 km. or
 25 miles south of Nogales and established camp
 in a valley which drains into the Rio Magdalena.

Nov. 6 Casita, 40 km. S Nogales, 992 m., Sonora.

Camp is located on the ranch of Guilivaldo Eldias, just west of the Southern Pacific tracks on a valley flat over which there are scattered small swampy spots, surrounded by small fields now covered with dry weeds. ~~and~~ Over the valley flat are scattered rows and groves of large willows and, in local areas, a species of walnut or butternut. On the higher parts of the flat, along its periphery, are occasional, large live oaks. Near camp there are fenced-in, cultivated fields, and ^{most of} ~~the~~ the remainder of the valley is grazed. Peripherally, also, there are mesquite groves that extend up on to the hills. The valley bottom represents one major local habitat; the other is the upland woodland of oaks. The mesquite mentioned above extends upward onto the lower hills, and then becomes less and less frequent to the crest of the low mountain range just west of camp. Along the crest, mesquite occurs apparently chiefly where grazing has eliminated most other vegetation. The woodland consists in most part of two species of oak, one suggestive of our Q. douglasii, the other of our Q. wislizenii. The first occurs on both drained slopes and in the arroyos; the second occurs along the arroyos and on the immediately adjoining slopes.

List of Species Recorded at
Pitahaya, 40 km. SE Empalme, 100 feet, Sonora.
Oct. 27 - Nov. 4, 1946

Ardea herodias

Casmerodius albus

Leucophaea thula, Oct. 29

Botaurus lentiginosus, Oct. 29-ASL

Mycteria americana, Oct. 30

Anser albifrons, 9 on Oct. 29, 15 on Oct. 30; 2 on Nov. 3.

Anas platyrhynchos

Anas ~~dissona~~ cyanoptera

Anas carolinensis

Anas acuta.

Mareca americana, 3 taken Oct. 31-WCR.

Chaulelasmus streperus

Spatula clypeata

Nyroca americana.

Nyroca affinis, 2 taken Oct. 30-WCR.

Oxyura jamaicensis, Oct. 30-ASL; Nov. 1-FAP.

Coragyps atratus

Cathartes aura

Accipiter striatus

Buteo jamaicensis, Oct. 30

Parabuteo unicinctus, Oct. 30.

Circus cyaneus

Polyborus cheriway

Falco peregrinus, Oct. 29-30, through Nov. 3.

Falco columbarius, Oct. 29-30, through Nov. 3; 2 collected, 2 others seen on Nov. 3

Falco sparverius

Lophortyx gambelii

Fulica americana

Charadrius vociferus

Numenius americanus, Nov. 1, flock of approximately 25.

Totanus melanoleucus

Catoptrophorus semipalmatus

Capella delicata.

Himantopus mexicanus

Recurvirostra americana.

Himantopus mexicanus (A-S.L.).

Zenaidura macroura.

Zenaida asiatica.

Columbigallina passerina.

Geococcyx californianus (Nov. 4).

Bubo virginianus

Chordeiles minor

Calypte costae

Melospiza alcyon, Nov. 1-2

Colaptes chrysoides

Centurus uropygialis

Dryobates scalaris

Sayornis nigricans

Sayornis saya.

Pyrocephalus rubinus

Myiarchus cinerascens, Nov. 2-3

Myiarchus tuberculifer

Corvus corax

Auriparus flaviceps.

Heleodytes brunneicapillus.

Troglodytes aedon.

Toxostoma bendirei

Toxostoma curvirostre

Mimus polyglottos.

Phainopepla nitens

Polioptila

Lanius ludovicianus.

Vireo belli, Nov. 2.

Vermivora celata.

Dendroica auduboni, Oct. 30 - Nov. 3.

Dendroica nigrescens, Nov. 3.

Dendroica townsendi, Oct. 30.

Geothlypis trichas, Nov. 2-3.

Molothrus ater, Oct. 29, 30.

Cassidix mexicanus

Euphagus cyanocephalus.

Sturnella neglecta.

Richmondia cardinalis

Pyrochuloxia sinuata

Passerina amoena, Nov. 2-3.

Carpodacus mexicanus.

Oberholseria chlorura

Passerculus sandwichensis

Ammodramus savannarum.

Poecetes gramineus, Oct. 29

Chondestes grammacus

Aimophila carpalis

Amphispiza bilineata

Spizella breweri

Zonotrichia leucophrys

Melospiza lincolni, Oct. 30.

Nov. 6. Casita, 40 km. S Nogales, 3300 feet, Sonora.

Where grazing has been persistent, the ground cover consists mainly of a narrow-leaved shrub of unknown species (a hop-like seed) and herbs, now mostly dry, although a few composites are still in blossom. Where the grazing has been limited, the ground cover is grassy with scattered shrubs of several species, including a manzanita and one or two composites. In these areas, the woodland is similar in general structure to the Douglas oak-live oak woodland on Mt. Diablo, ^{although the individual trees average smaller.} Here the woodland is densest on north-facing slopes.

Hunted this morning to the west of camp, following up one of the main draws to the main ridge of the range, which rises to approximately 4000 feet. To the north, this range rises higher and a scraggly pine, ^{suggestive of *P. edulis*, but larger,} occurred along its ridge. The birds observed consisted mainly of residents and some winter residents; migrants were few. Returned at 2:30 p.m.

Nov. 7 Remained in camp to keep guard and to finish skinning specimens taken yesterday.

Nov. 8 Returned to one of the draws to the west this morning, specifically to hunt towhees; obtained 3 *Pipilo maculatus* and 2 *P. fuscus* before the wind became so strong down canyon as to prevent further effective hunting.

Nov. 8 Casita, 40 km. S Nogales, 3300 feet, Sonora.

The woodland bird life is not generally distributed at this time of year. Its two most impressive aspects are the wandering flocks of Aphelocoma ultramarina and the loose, large, mixed flocks of small passerines, which have been observed to include Parus wollweberi, Psaltirparus, Polioptila caerulea (one only, noted today), Spizella breweri, Spizella passerina, Thryomanes, Salpinctes, Corthylio, Junco oreganus, Junco phaeonotus, Vireo huttoni, Dendroica auduboni, and Dendroica nigrescens (one each on Nov. 6 and 8). Flickers and, less commonly, Arizona woodpeckers, ^{and sapsuckers} occur scatteredly. Along the draws, where brush heaps and thickets occur, there are brown and spotted towhees. Canyon wrens occur locally where there are rocky slopes and deep cuts in the narrower draws or along narrow portions of larger draws. Pairs or small flocks of Aimophila ruficeps occur generally on the slopes bordering the draws, where there are ^{at least} scattered small shrubs, either on the wooded north-facing slopes or on the more exposed south-facing slopes.

One aspect of the woodland not mentioned under Nov. 6 is the fact that much of the region

Nov. 8 Casita, 40 km. S Nogales, 3300 feet, Sonora.

is overgrazed and that the local Mexicanos are constantly clearing the woodland of dead or dying trees. The substrate is very rocky, and over large areas there ~~are nothing but~~ scattered oaks ~~and~~ ^{with} abundant covering the narrow-leaved shrub and scattered herbs.

Nov. 9- Spent the entire morning and half of the afternoon on a long hunt south of camp in order to find ^a flat-bottomed canyon where towhees might occur in fair numbers. The upper slopes west of us were found to harbor only scant numbers of birds, probably in part because of the cold. One excellent towhee locality was found; three P. maculatus and three P. fuscus were taken from this one spot and an additional individual of P. maculatus was left there. No significant additions or differences in the woodland avifauna were noted this morning, but return through the bottomland timber of poplar, willow, ash, walnut, and elderberry south of camp introduced me to a new habitat harboring species not met earlier. For example, Oberholseria, Richmondia, Troglodytes aedon, Melospiza melodia, Zenaida asiatica, Centurus uropygialis was very common.

Nov. 10 Casita, 40 km. S Nogales, 3300 feet, Sonora.

Stayed in camp to finish skinning birds obtained yesterday.

Nov. 11 Broke camp this morning, driving north to Nogales and Tucson where we spent the night.

Nov. 12 Drove as far as Palmdale, meeting ~~snow~~ and the last of a heavy rain storm in southeastern California and snow on the north slopes of the San Bernardino and San Gabriel Mountains.

Nov. 13 Crossed Tejon Pass, also under snow, and then proceeded northward throughakersfield, Fresno, etc., reaching Berkeley at about 5:30 p.m.

Species accounts

Casita, 40 km. S Nogales, 3300 feet, Sonora,

List of Species

| | Woodland | Valley Flat | Special |
|------------------------------------|---------------|----------------|---------|
| <i>Ardea herodias</i> | | Nov. 6- | |
| <i>Cathartes aura</i> | | Nov. 8 | |
| <i>Accipiter cooperii</i> | | Nov. 8 | |
| <i>Accipiter striatus</i> | Nov. 8 | | |
| <i>Buteo jamaicensis</i> | Nov. 9 | | |
| <i>Falco sparverius</i> | FC | FC | |
| <i>Circus cyaneus</i> | Nov. 11 | | |
| <i>Cyrtonyx montezumae</i> | FC | FC | |
| <i>Charadrius vociferus</i> | | C | |
| <i>Catoptrophorus semipalmatus</i> | | Nov. 10. | |
| <i>Capella delicata</i> | | C | |
| <i>Zenaidura macroura</i> | C | C | |
| <i>Zenaida asiatica</i> | | Nov. 9 | |
| <i>Columbigallina passerina</i> | | | |
| <i>Otus asio</i> | FC | C | |
| <i>Bubo virginianus</i> | FC | FC | |
| <i>Megascops alcyon</i> | FC | Nov. 7 | |
| <i>Colaptes cafer</i> | C | C | |
| <i>Centurus uropygialis</i> | Few | FC | |
| <i>Balaenophaga formicivora</i> | | Few | |
| <i>Dryobates arizonae</i> | FC | | |
| <i>Aphelocoma urophasianus</i> | C | C | |
| <i>Sayornis nigricans</i> | | Few | |
| <i>Sayornis saya</i> | | Nov. 7 | |
| <i>Pyrocephalus rubinus</i> | | Few | |
| <i>Tyrannus vociferans</i> | | C | |
| <i>Corvus corax</i> | | Few | |
| <i>Aphelocoma ultramarina</i> | C | FC | |
| <i>Parus wollweberi</i> | C | | |

| | Woodland | Valley Flat | Special |
|---|-----------|----------------|---------|
| <i>Auriparus flaviceps</i> | Few | | |
| <i>Psaltiriparus minimus</i> | FC | | |
| <i>Sitta carolinensis</i> | Few | Few | |
| <i>Thryomanes bewickii</i> | FC | Few | |
| <i>Troglodytes aedon</i> | | Nov. 9 | |
| <i>Salpinctes obsoletus</i> | | | ✓ |
| <i>Catherpes mexicanus</i> | | | ✓ |
| <i>Troglodytes curvirostre</i> | | Few. | |
| <i>Turdus migratorius</i> | | Nov. 6 | |
| <i>Sialia sialis</i> | Nov. 6 | | |
| <i>Poliophtila caerulea</i> | Nov. 8 | | |
| <i>Anthus spinoletta</i> | | Nov. 7 | |
| <i>Bombus cedrorum</i> | | Nov. 10 | |
| <i>Regulus calendula</i> | C | | |
| <i>Phainopepla nitens</i> | Nov. 6 | | |
| <i>Vireo huttoni</i> | C | | |
| <i>Dendroica nigrescens</i> | Nov. 6, 8 | | |
| <i>Dendroica auduboni</i> | FC | | |
| <i>Sturnella magna</i> | | Nov. 10 + | |
| <i>Sturnella neglecta</i> | | FC | |
| <i>Euphagus cyanocephalus</i> | | FC | |
| <i>Agelaius phoeniceus</i> | | Nov. 10. | |
| <i>Cranga flava</i> | Nov. 6 | | |
| <i>Richmondia cardinalis</i> | | Nov. 7 | |
| <i>Carpodacus mexicanus</i> | Few | Few. | |
| <i>Olerholseria chlorura</i> | | Few. | |
| <i>Pipilo maculatus</i> | FC | | |
| <i>Pipilo fuscus</i> | FC | | |
| <i>Aimophila ruficeps</i> | C | | |
| <i>Junco oreganus</i> | FC | | |
| <i>Junco caniceps</i> o. <i>mearnsi</i> | FC | | |
| <i>Spizella passerina</i> | C | C | |
| <i>Spizella breweri</i> | C | C | |
| <i>Melospiza melodia</i> | | FC | |

Pelecanus erythrorhynchos.

Oct. 6 Rio Yaqui, on S.P.R.R., Sonora

Large flocks, totalling between 1000 and 1500, observed circling overhead just north of the river.

A winter visitant
~~not~~ recorded definitely in Sonora south of
Guaymas as early as November (van
Rossem, 1945: 32).

Pelecanus occidentalis

Oct. 6. Guaymas and Empalme, Sonora.

Observed at various points on Guaymas Harbor near these towns.

Oct. 25. Recorded again at the same localities.

Not noteworthy.

Ardea herodias

Oct. 31 Pitahaya, 40 km. SE Empalme, Sonora.

Single individual observed yesterday and today along the shore of a large lagoon.

Nov. 5-10 Casita, 40 km. S Nogales, 3300 feet, Sonora.

Noted several times, single individuals only.

Not noteworthy.

Botaurus lentiginosus

Oct. 29 Pitahaya, 40 km. SE Empalme, Sonora.

One raised from slough vegetation by
A. S. Leopold.

Considered a migrant and winter
^{in Sonora} visitant, but only four records are
available (van Rossem, 1945: 41).

Mycteria americana.

Oct. 4-6. Empalme, sea-level, ^{near} Guaymas, Sonora.

Large flocks observed each day near and along the shallow bay shore north of town. Daily flights suggested that at this time, at least, these birds were not migrating.

Van Rossem (1945: 42) ~~makes reference~~ ^{lists this species as a} only to "sporadic summer visitant from Guaymas, but without definite date limits of seasonal occurrence."

Oct. 30 Pitahaya, 40 km. SE Empalme, 100 ft., Sonora.

During period of Oct. 27-Nov. 4 on laguna, only one individual, presumably a migrant, observed on this date.

Anseriformes

Oct. 27-Nov. 4, Pitahaya, 40 km. SE Empalme, 100 feet, Sonora.

Anser albifrons. — But one record available from Sonora (van Rossem, 1945:44). Nine noted on laguna on Oct. 29; these plus six others present early on Oct. 30, after which date they were not observed. Two visited the laguna briefly on Nov. 3.

Anas platyrhynchos. — One taken on laguna on but known earlier. This is apparently earlier than any previous record (van Rossem, 1945:45).

Anas cyanoptera. — Not noteworthy.

Anas carolinensis. — Not noteworthy.

Anas acuta. — Not noteworthy.

Mareca americana. — Not noteworthy.

Chaulelasmus streperus. — Not noteworthy.

Spatula clypeata. — Not noteworthy.

Nyroca americana. — " "

Nyroca affinis. — Noted ~~earlier~~ ^{earlier} ~~one~~ ^{one} than previously recorded from Sonora (van Rossem, 1945:49).

Oxyura jamaicensis. — But three ^{authentic} records are available from Sonora (van Rossem, 1945:51). One ^{individual} observed on laguna on Oct. 30 and Nov. 1.

Nyroca valisineria. — Previously unrecorded from Sonora.

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Cathartes aura

- Oct. 10 Observed frequently from Nogales south to Mazatlán; less and less common southward, however, and outnumbered appreciably by Coragyps at Mazatlán.
- Oct. 16 El Batel, 70 km. NE Mazatlán, 5100 ft., Sinaloa
Common here, soaring scatteredly, especially along the ridges, when the sky clears partially. Found to be increasingly common as we moved from Mazatlán upward into the mountains.
- Oct. 31 Pitahaya, 40 km. SE Empalme, 100 feet, Sonora
Common, about 5 or 6 times as numerous as Coragyps.

Coragyps atratus

Oct. 10 With respect to ^{relative abundance of} *Coragyps*, the exact reverse of statements under *Cathartes* apply.

Oct. 12 Observed in decreasing numbers as we progressed into the mountains from Mazatlán. The last was seen by Starker Leopold at Santa Lucia, at approximately 3600 feet.

Oct. 31 Pitahaya, 40 km. SE Empalme, 100 feet, Sonora.

Not common, but of regular occurrence locally, judging by the last four days' observations.

Accipiter velox

Oct. 18 El Batel, 5,000 ft., Sinaloa.

A male was collected in a densely forested draw, where it had been chasing a acorn-storing woodpecker. Another, a female, was obtained by Leopold on Oct. 17 along the ridge above camp. He also observed several others flying along the ridge, apparently in migration.

Accipiter cooperii

Oct. 20 El Batel, 5100 feet, Sinaloa

One observed flying and soaring over the open woodland and clearing near the pass.

Astur atricapillus

Oct. 18 El Batel, 5100 feet, Sinaloa

One of two seen collected by Russell, who thought they behaved as though they might be established in the area. There was an unused, incompletely built nest, ^{high in a pine} near the site where the hawk was taken which might have belonged to the pair.

Buteo jamaicensis

Oct. 19 El Batel, 5100 feet, Sinaloa.

Two, one adult and one immature individual, were observed soaring over the cleared areas north of the pass. Both birds were very light colored below and lacked the dark abdominal markings of more northern birds.

Oct. 30 Pitahaya, 40 km. SE Empalme, 100 feet, Sonora.

One seen today flying overhead. Adult.

Not recorded on coastal plain south of Guaymas (van Rossem, 1945: 55).

Falco sparverius

Oct. 22 El Batel, 5100 feet, Sinaloa

Fairly common, occurring, ^{particularly} where the pine-oak woodland is broken and where there are openings or clearings. Seen at different times in the period

Oct. 13-22.

Oct. 30 Pitahaya, 40 km. SE Empalme, 100 feet, Sonora.

One ^{only} seen on each of the last three days.



Ortalis wagleri

Oct. 20 El Batel, 5100 feet, Sinaloa

A group of four or five, possibly a family group, passed near camp early this morning and awakened us with their calls. Leopold collected an adult female and an immature male. Later in the day, we heard them calling from the slope above camp, and in the evening they called again some distance up the canyon. They apparently remain in the vicinity of the densely vegetated draws and canyons.

1840

My dear Mother

I have just received your letter of the 10th inst. and am
glad to hear from you. I am well and hope these few lines
will find you the same. I have not much news to write at
present. I am still in the same place and doing the same
work. I have not much time to spare for writing. I must
close for this time. I will write again when I have more
time. I am your affectionate son, John Smith.

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Cyrtonyx montezumae

- Oct. 16 El Batel, 70 km. NE Mazatlán, 5100 ft., Sinaloa
A ^{family} group of quail exploded a few feet in front of me in an open, grassy pine woodland area on a high point just south of the road pass. They scattered so suddenly that I could be sure of seeing only 3 or 4 young ^{at once} besides the adults. The male began to flop around and call as he flew away behind me; then I squeaked and as he approached, I collected him. None of the remaining individuals was flushed again, although I walked over the area back and forth in cross-cross fashion. The crop of the male contained a small polygid-like snail about $\frac{1}{4}$ inch in diameter, and a small mass of "corns" and roots. The corns are of a kind Leopold has found repeatedly in the crops of these quail in various parts of Mexico. The young quail appeared to be better than half grown.
- Oct. 18 A pair was flushed from a small grassy spot on the west side of the ridge above camp.

Totanus melanoleucus

Oct. 27-Nov. 4. Pitahaya, 40 km-SE Empalme, 100 ft., Sonora.

Noted repeatedly and daily, ^{but} in small numbers.

Considered by van Rossem, ^(1945: 81) as probably a fairly common transient, ..., although records are few and scattered."

Limnodromus scolopaceus

Oct. 2 Santa Ana, 62 mi S Nogales, Sonora.

A single, ^{in association with a flock of small sandpeeps,} juvenal female, collected by W. C. Russell at an inland, fresh-water locality.

But three records are known from Sonora (van Rosden, 1945: 84), but presumably a regular transient and winter visitant.

Recurvirostra americana.

Oct. 27-Nov. 4 Pitahaya, 40 km. SE Empalme, 100 feet, Sonora

One flock of approximately 25 individuals ~~as~~ well as scattered individuals and groups of several seen almost daily.

Transient and winter visitant, but abundant uncertain (van Rossem, 1945:88).

Zenaidura macroura

Oct. 20 El Batel, 5100 feet, Sinaloa

A pair was flushed in the clearing north of the pass both yesterday morning and today. This species has also been reported by Russell and Leopold in the past week.

Oct. 31 Pitahaya, 40 km. SE Empalme, 100 feet, Sonora
Present in small numbers; seen daily.

Zenaida asiatica

Nov. 9 Casita, 40 km. S Nogales, 3300 feet, Sonora.

Loose flock of ^{approximately} 25 individuals observed in flight over bottomland timber of poplars & willow, along stream south of camp.

Late fall or
Winter records for Sonora north of 29° lat. are lacking (van Rossem, 1945:99), although the species is known to winter in southern Arizona in small numbers.

Leptotila verreauxi

Oct. 22 El Batel, 5,000 feet, Sinaloa

Apparently fairly common in the open woodland locally; heard repeatedly and seen several times in the past week.

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Ara militaris

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Oct. 16 El Batel, 70 km. NE Mazatlán, 5100 ft., Sinaloa

One pair heard and/or seen flying westward through the pass in the morning, returning through the pass later in the day; this occurred daily until this morning when Russell collected the male of the pair on its westward flight. Yesterday, in the late afternoon after a light rain, a large flock of 40 or 50 was seen flying northward along the ridge above our camp.

Oct. 18 A pair was observed perched a few inches apart, atop a dead pine, on the east side of the ridge above camp. They remained here fully 15 minutes, squawking almost continuously and periodically going through some bending maneuvers which I could not make out well because of distance. Then they took wing and soared ^{several successive} in circles over the forest and against the sheer cliffs of the east face of the ridge.

Amazona finschi

Oct. 20 El Batel, 5100 feet, Sinaloa
A pair was taken by Russell.

Geococcyx californianus

Oct. 12 Santa Lucia, 3600 ft., Sinaloa.

Observed by Leopold and Russell in the brush below the trail as we approached this village.

Ciccaba virgata
~~*Strix*~~

Oct. 14 El Batel, 5100 feet, Sinaloa

One brought into camp by Alberto Labrador, who obtained it in a dense stand of trees below camp, somewhere near his home.



Otus asio

Nov. 6-10 Casita, 40 km. S Nogales, 3300 feet, Sonora.

Common in open willow timber on the valley flat, ^{just} south of Casita. Two collected by W. C. Russell.

But one specimen of O. a. cineraceus, ^{presumed ~~asio~~} the race of north-central Sonora, known (Van Rossem, 1945: 107).

Chordeiles ~~minor~~ acutipennis

Oct. 27-Nov. 4 Pitahaya, 40 km. SE Empalme, 100 feet, Sonora.

Observed ^{in the evenings,} daily, in large flights over the entire region around our camp but in greatest numbers over or near the lagoon. ~~On~~ Largest numbers were observed on about Nov. 1, when thousands were circling about in the air and when dense groups could be seen in all directions.

~~Recorded~~ ^{discussed} by Van Rossem (1945:115) only as a summer "visitant" [=resident]

The citation refers to C. minor, not C. acutipennis

Lampornis clemenciae

Oct. 18 El Batel, 5,100 feet, Sinaloa.

Both today and on the 16th, a large hummer was observed briefly as it flew through the upper parts of the woodland vegetation along the ridge above camp. See under Hylocharis leucotis, Oct. 22, for identification marks. The flight differed distinctly from that of the smaller hummers, the wing beat being slower and visible, and the flight itself being broken so that the course was slightly undulating. None seen elsewhere, or reported by Leopold or Russell.

Hylocharis leucotis

Oct. 22 El Batel, 5100 feet, Sinaloa.

Common, generally distributed where there are low thickets including plants in flower, but particularly abundant along streams and draws. I have paid particular attention to this "colonial" species of Skutch, and cannot say that they differ in behavior in any important respect from *Calypste*. Of course, ~~at~~ this post-breeding time, the question of coloniality cannot be settled. Like *Calypste*, there ~~are~~ ^{are} repeated ^{chases and} chases, with much chattering, indicating a strong intolerance among individuals. ^{A number of} Adult males have been observed to sing after chases. The song is weak, and ~~very~~ ^{much} more insect-like than in *Calypste*; it ^{a chatter and nasal squeak,} consists of, alternately given three or four times, and ended with three or four sharply upturned squeaks and a chatter. Sometimes the upturned squeaks are omitted. Chups or chatters are given more or less continuously during feeding. The adult males, although singing ^{occasionally} and occupying prominent posts, do not hold to them as definitely ^{at this time, after breeding,} as *Calypste* does. But that the adults are locally established is clearly indicated by the fact that certain individuals appear to remain in one area and are seen repeatedly. Some local shifting undoubtedly occurs, however; Leopold collected an adult male in camp on Oct. 20, and

Hylocharis leucotis

Oct. 22 El Batel, 5100 feet, Sinaloa.

both yesterday and today another adult male has been present.

But two other species of trochilids have been seen or collected: Leopold obtained a specimen (*Amazilia*?) from a clearing below camp on Oct. 19, and both on the 16th and 18th I saw, briefly, a large hummer in flight which by the ^{generally} dark coloration, with blue anteriorly and white tips on the outer tail feathers, has been identified as the blue-throat, *Tamias clemenciae*.

Amazilia beryllina

Oct. 19. El Batel, 5100 feet, Sinaloa

One collected by Leopold in a field
below camp.



Trogon mexicanus

Oct. 21

El Batel, 5100 ft., Sinaloa

One observed in fairly dense oak-pine. It was apparently catching insects on wing and would sally out after them from a lower branch, moving ^{low} through openings beneath or below trees. In this manner it progressed up a slope. One was collected by Leopold on Oct. 15.

Trogon mexicanus

Oct. 14 El Batel, 5100 feet, Sinaloa.

One was collected by Leopold, a female of uncertain identity.

[Proved to be same as previous species.]

Colaptes

Oct. 20 El Batel, 5100ft., Sinaloa

Heard calling several times in open woodland areas, but none was observed. One was collected by Russell this morning, and it appears to be C. cafer.

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Piculus auricularis

Oct. 19 El Batel, 5100 feet, Sinaloa

One flushed from the ground on a brushy hillside in open pine woods. It flew to a nearby trunk and perched about 8 feet above the ground. This individual is the only one collected; no others have been seen by any of us.

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Balanosphyra formicivora

Oct. 16 El Batel, 5100 ft., Sinaloa.

This is one of the commonest species throughout the oak-pine woodland. They appear to be regularly distributed; if there is coloniality in the species here, no evidence of it has come to my attention yet, possibly because there is no breeding activity. Their calls and general behavior seem identical with that of the Californian birds. Today two were seen flycatching after the sun came out of the early morning clouds.

Oct. 21 None of us has seen any sign of acorn storing. These woodpeckers spend much time feeding about the epiphytic growths along the main limbs of the larger oaks. Flycatching is also common. The species is abundant and generally distributed, as indicated above.

Nov. 7 Casita, 40 km. S Nogales, 3300 feet, Sonora.

One collected today; ~~several~~ a few single individuals noted in the period Nov. 6-10 in willow-poplar bottomland timber.

Recorded by van Rossem (1945:135) as resident of oak and oak-pine regions; ~~but~~ not noted in ~~oak~~ woodland at Casita, just south of Culbata, but recorded and collected in riparian timber.

Dryobates scalaris

Nov. 9 Casita, 40 km. S Nogales, 3300 feet, Sonora

One collected in oak woodland; ~~one~~
other observed in willows on Nov. 7.

Regured by van Rossem (1945:139) as
characteristic of riparian and cactus asso-
ciations. The above record may represent
a local vagrant, as extensive bottomland
timber occurred nearby.

Dryobates arizonae

Oct. 21 El Batel, 5100 ft., Sinaloa

Seen and heard several times in the last few days in ^{open} pine-oak woodland or along borders thereof. Once it was observed among low shrubby second growth in a field, where it was feeding along thin stems in downy-woodpecker fashion. Its call is closer to that of Dryobates nuttallii than to the other species of Dryobates.

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Empidonax

Oct. 16 El Batel, 5100 ft., Sinaloa.

Two collected and many seen in the last few days. There are undoubtedly several species present locally, most of them, if not all, being migrants.

Oct. 21 *Empidonax* very common

Contopus pertinax

Oct. 18 El Batel, 5100 feet, Sinaloa

One collected in pine-oak woodland above camp. It suggests very much Nuttallornis borealis, but its call is softer and more quiet. The notes lack the robustness of the olive-side, and approach more those of *Myiochanes*.

Oct. 21 Another seen in a similar situation along the high ridge above camp.

Tyrannus vociferans

Nov. 6-10 Casita, 40 km S Nogales, 3300 feet, Sonora.

Noted daily; common, occurring as individuals and ⁱⁿ small drifting flocks.

Not recorded in winter north of Hermosillo or later in the fall than Oct. 23, on the Santa Cruz River. The birds at Casita did not vary ^{much} in numbers from day to day, and may have been winter visitors.

Tachycineta thalassina

Oct. 20 El Batel, 5100 feet, Sinaloa

A large, widely spread flock, of at least 75 individuals, was observed feeding over the cleared areas north of the pass. Apparently a migrating flock, after a half hour or so, they left the area. No other swallows have been seen, but Leopold reported a flock several days ago of another species not identified with certainty.

Aphelocoma ultramarina

Nov. 6-10 Casita, 40 km. S Nogales, 3300 feet, Sonora.

Observed daily in flocks of usually 10 to 25 birds; rarely seen in small numbers or as lone individuals, these apparently being stragglers, ^{temporarily} from flocks to which they belong and probably not far distant. Four to six flocks were encountered in the course of a full morning's cruising. Behavior of flocks which were followed for periods of $\frac{1}{2}$ to 1 hour as well as flocks met two or three times at a given location suggest that they are actually more local in their wanderings than would at first appear to be the case.

Flocks were made up of adults and first-year birds.

The chief note of this species is a unjay-like, nasal and harsh, upswung wick or wreck strongly suggesting a ^{commemorate of the house finch, but} much amplified. This note was given repeatedly by the individuals of a flock in flight, also when part of the flock was in flight, or when the birds were in any way disturbed or alarmed. It clearly served as an alarm note and flocking note. While foraging, members of a flock uttered only a soft kruk, apparently merely a conversational note, similar to that of A. coerulescens.

Aphelocoma ultramarina

Nov. 6-10 Casita, 40 km. S Nogales, 3300 feet, Sonora.

Feeding flocks settled on a hillside in areas where some ground cover was available and then forage either over the ground or in the peripheral foliage of oaks. In feeding ~~movements~~ ^{activities}, ~~and~~ sideways hopping on the ground, and craning and bending about foliage masses, this species suggested *A. coerulescens*. It was observed to pound bits of food, probably acorns, as does the scrub jay. I was impressed with the silence of the feeding flock; often only after shooting at some other species would I realize that a flock had been nearby all the time but practically silent. Also, it was realized that some of these silent flocks were merely resting ^{quietly} in one or two oaks.

The flight is direct and strong, the impression one gets being that of a bird distinctly heavier than our coastal scrub jay. Individually or in flocks, these jays would undertake long flights down or up slopes, ^{and} across canyons at considerable heights above the woodland in a manner rare to *A. coerulescens*. In flocking behavior, movement, and even in call-notes (manner of calling and to some extent quality of notes), these jays suggested *Cyanocephalus*.

Aphelocoma ultramarina

Nov. 6-10 Casita, 40 km. S Nogales, 3300 feet, Sonora.

In manner of ^{flock} feeding, i.e., the scattering of individuals through foliage and on the ground with one or a few individuals perching quietly and watching, often from fairly prominent perches, and the slow drifting of the flock along a hill-slope, in these respects the Arizona jay strongly suggested Cyanocorax ^{dickeyi}, also a flocking species in which adults and first year birds form apparently local unit groups.

The species is characteristic of the oak woodland, ~~but~~ follows the woodland down canyons to lower elevations where mesquite becomes predominant and where riparian timber of open ^{groves and rows of} willow occur.

It was noted that certain individuals of a group mildly disturbed would bob every now and then, as does the scrub jay. One bird almost always assumed a sentinel position, perching high and after holding to the perch until most or all of the flock ~~was~~ departed in flight.

Cyanocitta stelleri

Oct. 22 El Batel, 5100 feet, Sinaloa.

Several taken in the past week by Russell and Leopold. The species apparently occurs only scatteredly, as neither of the collectors saw more than one or two on the few mornings when the species was met. The fact that the specimens taken include adults suggests that the species is probably locally resident.

Calocitta colliei

Oct. 8 Culiacan, Sinaloa

Two observed in flight just north of Culiacan, near the river.

Oct. 11 Panuco, Sinaloa.

One collected by Leopold.

Oct. 12 Observed at various points during our trip into the mountains.

Oct. 23 Villa Union, Sinaloa.

A pair noted a short distance west of this town.

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Cyanocorax dickeyi

Oct. 18

El Batel, 70 km. NE Mazatlán, 5100 ft., Jinaloa.

Met a loose flock of 10-12 individuals along a ridge south of the pass in a rough, steep-sloped draw where the pines and oaks were fairly large, compared to the second-growth along the road below. They were moving toward me when I first saw them, and my presence did not appear to disturb them. They continued past me and continued along a ridge and then dropped into the forest again. In all I spent almost an hour with them; one was collected at the very end of my observation period when they were dropping down the steep slope.

The flock drifted along very leisurely, spreading over an area about 50 feet wide and 75 feet long. Most of the time, the individuals fed, but some perched quietly, others hopped about limbs with seeming aimlessness. Feeding occurred on the ground, on prominent points such as rock outcrops near tree foliage, as well as in the upper leafy branches of pines and oaks; but most of the feeding occurred along the main, lower branches of oaks covered with dense growth of lichens, moss, and epiphytes. About each mass of plant growth, the individual jay would pause, examining it from all sides and poking into it. Once one pounded a fragment in the same manner that Aphelocoma pounds nuts. Leopold also observed the pounding action.

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Cyanocorax dickeyi

Oct. 19 El Batel, 5100 ft., Sinaloa

Throughout the period of observation, and particularly during the first half of the period, one or more individuals called off and on, the variety of notes being such as to defy complete registration on first acquaintance with them. At least five stand out in my brief study of them: (1) ke-ke-ke-ke-ke, a harsh and throatled series of notes; (2) a note similar in quality to the first, but consisting only of a long ka-a-a-a; (3) a softer, almost whistled ke-e-e-e, starting high and dropping down in pitch as the call is protracted; (4) ker-r-r-r, suggestive of a raven's call, but considerably softer, weaker, and higher pitched; (5) k-k-k-whew-uk'-kree, one of the more complicated notes, the first three syllables being hard, unmusical, ~~staccato~~ notes, followed ^{without break} ~~rapidly~~ by the syllables whew-uk, the last note being distinct and more drawn out than any of the others. There were fully five ^{or} more notes in addition to those recorded above, but those heard ~~the~~ most frequently were the ones which I remembered distinctly. The notes were garruline in quality and the only aspect of them which impressed me, relative to other corvids I have observed, was the variety given apparently in merely routine and

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Cyanocorax dickeyi

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Oct. 18 El Batel, 5100 ft., Sinaloa

leisurely feeding.

Progress through the forest was mainly by hopping through the vegetation and gliding over short distances through openings. The wing beat was regular and somewhat heavy, suggestive of that of Nucifraga. Flight through larger, unshaded areas was distinctly more rapid than through the ^{small} openings in the forest. As in Aphelocoma, these jaegers would move up from limb to limb, climbing ^{at least} several feet before gliding to another tree; in this behavior, the heavier weight of Cyanocorax was distinctly evident as the jumps upward from limb to limb were more labored.

After about the first half hour, the flock apparently broke into two, as during the latter half of my observation period, I saw only 5 or 6 individuals. The amount of calling also fell off at about the time the flock broke into two.

During the period when the flock was reduced, one individual was observed perching quietly and in full view, the others moving about and feeding in the near vicinity. One of these moved toward the quietly perched bird, and ~~stood~~ moved up next to it, remaining perched there for 15-20 seconds in parakeet-



Cyanocorax dickensii

Oct. 18

El Batel, 5100 ft., Sinaloa.

fashion. No billing or preening of feathers occurred. Then, the second bird moved away, back along the limb he used earlier as an approach; the first bird took wing then, dropping down a steep slope and the second one followed it.

The species is irregularly distributed, or appears to be at this time of year, because it has been met by Russell and Leopold in numbers of 2, 3, and about 10. Albert Labrador, who collected a good part of our jay series, also repeatedly reported seeing them in flocks of ten or so. When seen, they are moving through an area; the suggestion being that local flocks wander over fairly large areas. The flocks consist of both adults and 1st-year birds and of adults from more than one pair; thus, a series of seven taken from one group by Leopold on Oct. 14 contained more than two adults.

In part, the irregular local distribution arises from the restriction of the forest habitat apparently required by the species. Extensive local areas have been cleared or lumbered, and it is necessary to seek the jays in the upper reaches of the canyons and draws, and along the high ridges where there has been

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Cyanocorax dickeyi

Oct. 18 El Batel, 5100 feet, Sinaloa.

less or no disturbance of the forest.

Oct. 22. Of six brought in this morning by Russell, ^{and taken from one flock,}
three (prepared ^{later} at Mazatlan as merely roughed-out
skins) ^{1 ♂♂, 1 ♀} are adults; the other three, contained in the
main collection as finished skins, should be
checked as to age and sex.

Corvus corax

Oct. 18 El Batel, 5100 feet, Sinaloa

One pair observed circling over a part of the high ridge above camp

Oct. 21 Apparently the same pair, present in the same area as recorded above.

Nov. 10 Sonora.

Noted commonly throughout the desert region; the species ^{for the most part} being distributed as locally resident pairs. Both at Pitahaya and Casita; members of local pairs were seen repeatedly ~~in the same~~ ^{in the same} area. Large flocks, ~~of~~ numbering 20 to 30 individuals, possibly representing concentrations of first-year birds, were noted only twice, once along the Guaymas-Hermosillo road on Nov. 4 and again just north of Casita on Nov. 11.

In the light of my past experience with this species, I was greatly impressed with its abundance and regular distribution in the desert scrub and mesquite-cactus regions of Sonora.

Parus wollweberi

Oct. 22

El Batel, 5100 feet, Sinaloa

Fairly common in the oak-pine woodland, generally avoiding the more dense, almost forest-like stands. Observed repeatedly in the past week, most frequently in small flocks accompanied by creepers, kinglets, migrant warblers, etc.

In actions, ^{and calls,} this species is distinctly chickadee-like, and resembles P. atricapillus or P. gambelii more closely in these respects than P. bicolor or P. inornatus. Once a lone individual was found singing; the song was similar to that of the two "tit mice" mentioned above, put'o-put'o-put'o; except that it seemed to be given more rapidly and did not sound quite so loud.

Certhia familiaris

Oct. 22

El Batel, 5,100 feet, Sinaloa

Observed on several occasions in the past week in pine-oak woodland, in company with titmice, warblers, kinglets, and other small passerines.

Campylorhynchus jocosus

Oct. 21 El Batel, 5100 feet, Sinaloa.

One group found in dense brush just north of the pass, apparently a family group. Three were collected on October 19.

Two more were seen at the same place today.

The call-note is a harsh rattle, unlike that of any wren I have ever observed in that the quality of tone ~~suggests~~ ^{approaches} that of Sciurus.

The species has not been seen elsewhere, and ~~none~~ ^{not} has been collected or seen by Leopold or Russell.



Troglodytes brunneicollis

Oct. 21 El Batel, 5100 feet, Sinaloa

Common everywhere, occurring in all brush thickets. A frequently given call is very similar to that of the Rock Wren. All individuals collected are in late stages of molt.

Catherpes mexicanus

Oct. 10 Paruco, Sinaloa.

Resident apparently in the village, using the ^{tile} roofs of the houses as shelter ^{or nesting sites} apparently, and flying into the dense, lush thickets nearby to feed.

Oct. 22 El Batel, 5100 feet, Sinaloa

Present along the draw in which our camp is located; the species is attracted apparently by the rocky slopes, about the nooks, niches, and crannies of which they are present. The built-up log walls, supporting roads or trails at sharp turns on steep slopes, also attract them.

Melanotis caerulescens

Oct. 22 El Batel, 5100 feet, Sinaloa

Present in dense, ^{tall} growths along the steep draws or in understory thickets where the forest is more or less undisturbed and fairly luxuriant, as on the north-face of the ridge above camp. The species is exceedingly wary. Here it probably occurs along the upper margin of its altitudinal range, as it is mainly a species of the lower, ^{more} tropical zones.

Hylocichla guttata

Oct. 18 El Batel, 5100 feet, Sinaloa.

One collected when found feeding on the ground, in grass, under pines and oaks. Leopold also collected a specimen of this species in the past few days.

Myadestes

Oct. 22 El Batel, 5100 feet, Sinaloa.

Solitary, but regularly distributed and fairly common, appearing to prefer the open pine oak woodland. This is one of the few species noted regularly in song.

Sialia ^{sialis} ~~mexicana?~~

Oct. 20 El Batel, 5100 feet, Sinaloa.

A loose flock present in ^{an} open stand of oaks and pines bordering a large clearing. Also observed flying overhead in small numbers in the past few days.

Nov. 6 Casita, 40 km. S Nogales, 3300 feet, Sonora.

One injured and ^{observed} ~~seen~~ closely, but not caught, in open woodland along the ridge west of camp. Another also seen at the same time and place.

But one ^{definite} record from Sonora exclusive of the breeding period (van Rossem, 1945:203).

Corthylio calendula

Oct. 22 El Batel, 5100 feet, Sinaloa

Fairly common, occurring solitarily and ~~as~~
a member of the ~~small flocks~~ ^{mixed flocks} of small passer-
ines that wander through the oak-pine wood-
land.

Bombycilla cedrorum

Nov. 10 Casita, 40 km. S Nogales, 3300 feet, Sonora.

A flock of about 20 observed. wheeling
over open bottomland willow timber.

Fall records from Sonora are lacking,
probably, as Van Rossem (1945: 210) states, due to
lack of observation at this season.



Vireo solitarius

Oct. 20. El Batel, 5100 feet, Sinaloa.

A vireo, heard repeatedly in the past week, was thought to be of this species. This morning one was observed for several minutes in good light, as it fed on the upper limbs of a pine.

Vireo huttoni

Oct. 21 El Batel, 5100 feet, Sinaloa

A call-note, identical with that of V. huttoni^{in California}, was heard several times from loose flocks of small passerines. Today, for several minutes, one sang in a manner similar again to that of V. huttoni in California. Unfortunately, I did not succeed in observing or collecting one.

Nov. 6-10 Casita, 40 km. S Nogales, 3300 feet, Sonora.

Fairly common in oak woodland, occurring ^{individually or in pairs} in flocks of small passerines.

Vireo belli

Nov. 2 Pitahaya, 40 km. SE Empalme, 100 feet, Sonora.

One noted in song, apparently a migrant; none other observed during our stay at this locality.

Data on seasonal occurrence in southern Sonora are lacking (van Rossem, 1945: 213).

Pitelka
1946

Vermivora celata

Oct. 12 El Batel, 5100 ft., Sinaloa

One collected by Russell from a stream
border thicket along a log trail at camp.

Oct. 22 Observed repeatedly in the past week.

Dendroica nigriscens

Oct. 18 El Batel, 5100 feet, Sinaloa

Two observed close at hand in one large, loose flock of small passerines.

Nov. 3 Pitahaya, 40 km. SE Empalme, 100 feet, Sonora.

One collected from a flock of migrant warblers.

Nov. 6, 8 Casita, 40 km. S Nogales, 3300 feet, Sonora.

One individual noted on each of these dates in flocks of small passerines.

Records of fall occurrence ^{in Sonora} are limited to August and September (van Rossem, 1945: 224).

Dendroica townsendi

Oct. 21 El Batel, 5100 feet, Sinaloa

Observed repeatedly in the last week; usually in company with other small passerines. This is one of the most common comprothlypids, although it is not as abundant as Wilsonia pusilla.

Oct. 30 Pitahaya, 40 km. SE Empalme, 100 feet, Sonora.

An adult was observed in the brush bordering a large lagoon.

No fall records for Sonora (van Rossem, 1945: 224).

Pitelka
1946

Dendroica occidentalis

Oct. 18 El Batel, 5100 feet, Sinaloa.

Observed several times along with
Dendroica townsendi, *D. nigrescens*,
Yermivora celata, *Setophaga picta*, *Certhia*,
Corthylio, *Parus*, and other small
passerines in a large, loose flock.

Oct. 19 One collected from a loose flock of
small passerines.

Dendroica auduboni

Oct. 21 El Batel, 5100 feet, Sinaloa

Seen or heard repeatedly in the last week, most frequently in association with other small passerines in loose flocks. Presumably migrant.

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Wilsonia pusilla

Oct. 16 El Batel, 5100 ft., Sinaloa.

Common in thickets, particularly near streams; presumably only a migrant here. Often seen in company with other small passerines.

Peucedramus olivaceus

Oct. 20 El Batel, 5100 feet, Sinaloa

One observed yesterday in company with other warblers. Also reported earlier by Leopold.

Oporornis tolmiei

Oct. 11 Panuco, Sinaloa

Observed in dense thickets along the road leading up out of the village.

Cardellina rubrifrons

Oct. 18 El Batel, 5,100 feet, Sinaloa.

One observed in a mixed flock of warblers ^{by Russell,} and other small passerines. One collected, but not saved, on Oct. 14.

Setophaga picta

Oct. 22 El Batel, 5100 feet, Sinaloa.

Common throughout the pine-oak woodland; frequently heard in song; moves about solitarily or as a member of mixed flocks of small passerines.

Basileuterus belli

Oct. 21 El Batel, 5100 feet, Sinaloa

A small, warbler-like passerine was observed briefly, but ~~at~~ a distance of only 5 feet or so, ^{in low thickets} along a stream high up above camp. The dorsum was yellowish green, the venter yellow with faint streaks; the crown and sides of the head were red, with a yellow superciliary line. In action, this species suggested Melospiza melodia; it had the general proportions of the latter but was only about $\frac{3}{4}$ its size. Its call note, given frequently, was a protracted, uneven squeak.

Basileuterus rufifrons

Oct. 21 El Batel, 5100 feet, Sinaloa.

A common species in thickets along streams and in forest openings. The song is strongly suggestive of that of *Spinus tristis*. The call note is very much like that of *Zonotrichia leucophrys*. The species occurs in small flocks which may represent family groups. They occur in habitat very similar to that occupied by the locally resident wren, except that this species avoids the dry brush hills which the wren appears to prefer; i.e., this species prefers the greener brush thickets. In behavior, this species suggests ^{*Geothlypis*} more than any other I can think of.

Euphagus cyanocephalus

Oct. 15 El Batel, 5100 feet, Sinaloa

A female was collected by Russell. It was perched on a wire in a cleared area north of the pass.

Oct. 22 I have not met this species at all during our stay here.

Piranga flava

Oct. 22 El Batel, 5100 feet, Sinaloa

Fairly common, occurring in small, loose foraging flocks that seem to drift through the woodland. The males are in red plumage. Reported by Russell to feed on small pine cones in the manner of crossbills.

Nov. 6 Casita, 40 Km. S Nogales, 3300 feet, Sonora.

^{loosely} flock, ^{of 6 to 8} observed feeding and drifting in oak woodland. One male collected.

Considered by van Rossem (1945: 248) as only a ^{summer} ~~winter~~ visitant to oak-pine associations.

Pranga erythrocephala

Oct. 18 El Batel, 5100 ft., Sinaloa

A pair of yellow, tanager-appearing birds was found in the brush of a small opening in fairly dense oak-pine forest. Both called, and the note was a finch-like chip. They were slightly larger than a song sparrow and fringilled in manner. The female was collected first; the male was shot also, but was lost. So far as I could observe, the male was similar to the female except that face was washed with red, very much as in Pranga ludoviciana.

Melospiza cinerea

Oct. 20 El Batel, 5100 feet, Sinaloa.

Several collected from thickets, as along the stream at camp. This species strongly suggests a small Pipilo in general form.

Atlapetes torquatus

Oct. 15 El Batel, 5100 feet, Sinaloa

One ^{of a pair} collected by Leopold in thicket under dense forest canopy in a hollow along the high ridge above camp. None other seen or collected by any of us

~~Oct. 31 Pitahaya, 40 km.~~

Hedymeles melanocephalus

Oct. 22 El Batel, 5100 feet, Sinaloa

Heard or observed a few times in the past week in pine-oak woodland; apparently migrant; at least one specimen collected.

[Probably present as resident, also.]

Pipilo maculatus

Oct. 22 El Batel, 5100 feet, Sinaloa

Encountered only 4 or 5 times in the past week. Each time; the species was present in dense undergrowth in areas where the oak-pine woodland was fairly dense. Two were killed on Oct. 18 on a steep slope along the ridge above camp, but only one was found. On all other occasions, the species was heard from thickets in deep, rocky draws or up on dense slopes where approach was unsuccessful or impossible, because of the roughness and ~~slope~~ of the ground. It is my impression that the species is probably a migrant or winter visitant here; the individuals seen have not behaved as locally resident birds in the manner of Berkeley Hills birds.

Nov. 6-10 Casita, 40 km. S Nogales, 3300 feet, Sonora.

Not common, but regularly met in areas of suitable habitat; i.e., abundance of the species here has been influenced importantly by extensive ^{grazing and} clearing of the woodland. Found ^{1 along draws on canyon bottoms} most frequently near or in brush heaps formed by the crowns of felled trees particularly if nearby living vegetation afforded any ground cover. Encountered also, but much more rarely, on upland slopes, as in the vicinity of manzanita brush; here again availability of habitat is apparently the

Pipilo maculatus

Nov. 6-10 Casita, 40 km. S Nogales, 3300 feet, Sonora.

chief reason for its rarity. Where the species was met, it was found occurring in pairs or as individuals. The distribution and regular occurrence of pairs seemed to indicate residency of the species. Individuals may have represented migrants or unmated birds, probably chiefly first-year individuals, from the local population.

Towhees were quiet for the most part and would respond to squeaking with one soft, inquisitive zee or remain quiet. If a vocal response was made, continued squeaking by the collector did not excite them further. Behavior of certain individuals that were chased or stalked again indicated local residency through reluctance of the bird to leave a "home" area; i.e., after moving a certain distance away from the spot where it was first found, the towhee would fly back or move circuitously in order to again return to a favored spot.

P. maculatus occurred with *P. fuscus* along ^{flat} canyon bottoms ^{or in} near the mouths of canyons where suitable habitat for both occurred.

Pipilo fuscus

Nov. 6-9. Casita, 40 km. S Nogales, 3300 feet, Sonora.

Not common, and considerably less numerous than P. maculatus, but found more or less regularly in or near large brush heaps on ^{broad} canyon flats or stream beds at low points in the sierra west of camp. P. fuscus was found in each instance at points where in addition to the brush ^{piles} or shrubs, there were at least a few large trees, some varied rocky terrain with scattered large boulders and rocky slopes, or both. The ^{rocky} crevices and passageways together with neighboring shrubs or herbs appear to provide sites favored for their feeding and hiding. On two occasions they were observed to ~~fly up~~ ^{fly up} into large trees when disturbed on the ground. The species was observed in pairs or as individuals, evidently resident.

But two notes were heard from fuscus, one a familiar ^(similar to that) typ given by birds of the Berkeley hills, the other a strange, harsh two-parted note ai-uk, given several times in succession when the individual was disturbed and alarmed. In general, however, the species was exceedingly quiet.

Aimophila rufescens

Oct. 22 El Batel, 5100 feet, Sinaloa

A large sparrow, collected several times by our group. I encountered it on Oct. '6, when one was flushed from a brushy thicket in a cut-over pine-oak woodland.

Aimophila carpalis

Oct. 31

Pitahaya, 40 km. SE Empalme, 100 feet, Sonora.

Observed several times in the past three days; four have been collected. Birds taken were in late stages of molt and not fat, suggesting that they are local residents. Further evidence on this point is that the species has been met only as pairs or individuals, either solitary or in loose ^{and probably brief} association with the small flocks of sparrows, mainly *Spizella breweri*, that drift about. Heard in song on the 29th and 30th, which days were warmer than today. One of the specimens collected had been singing from a prominent perch and then moved into a cactus-grass thicket where he continued with a whisper song before I shot. Two, ^{were collected and} which proved to be a pair, were earlier observed up in an open, dead shrub, the male ^{regularly-given} in song. The note of this species is a reedy tzep. The song is weak, consisting of a series of ^{monotonous} notes prefixed variously by several higher or lower notes. A pattern of a typical song is as follows -- _ In notes, song, and actions, this species distinctly differs from *Aimophila ruficeps*. It moves about ^{more} like a spizellid; its manner of perching high on a prominent ^{open} twig and its posture distinctly suggests those of the eastern field sparrow.

Nov. 1

Found today to be more common in an area where mesquite predominated and where the

Amiophila carpalis

Nov. 1

Pitahaya, 40 km. SE Empalme, 100 feet, Sonora.

interspaces were largely grassy. See journal under Nov. 1. Having learned the notes of the species in the last few days, I could find ~~them~~ ^{it} easily here. The species apparently occurs in spaced pairs. The males sing intermittently, and the pairs could be spotted in this fashion. One pair was collected and prepared for skeletons (708-709). Another pair showed considerable alarm when I approached it. The alarm note is a sharp tzee or tzip. I soon became aware of a soft, repeatedly given tsee tsee tsee coming from a dense thicket. Upon investigating, I was astonished to flush a bob-tailed juvenile! I collected the male, who remained nearly either giving the alarm note or singing a ~~series of~~ ^{series of} 5 to 9 notes, given successively faster, as in *Spizella pusilla*: tsee tsee tsee tsee tsee etc. All through the earlier observations, the female was nearby and also giving the alarm note. After I collected the male and also two juveniles, I waited while the third and last juvenile called hoping to take female, but she did not appear. I then collected the last juvenile.

The juveniles were not more than two or three days out of the nest. They behaved like fledglings recently out of the nest, calling repeatedly and remaining on a perch, not moving until I was

Aimophila carpalis

Nov. 1

Pitahaya, 40 km. SE Empalme, 100 feet, Sonora
a few inches away.

The male parent is in an early stage of molt; both wings and tail contain new and old feathers. The gonads were exceptionally large, 5.5 mm.

Of the pair prepared as skeletons, the female had ~~not~~ begun to molt. The male had begun to molt on the wings; his testes were 3.5 mm. long.

Another observation pointing to the local residency of this species is the fact that the members of a pair ~~seem~~ attached to a particular area; when one is collected, the other remains nearby.

In Sonora, van Rossem (1945: 274) doubts breeding of this species in the southern part of its range; he points out that there is a complete absence of records between June 22 and Nov. 5, and that specimens taken in May and June were only in the beginning of sexual activity and were in stages of prenuptial molt.

Aimophila ^{*ruficeps*} ~~*carpalis*~~

Oct. 22 El Batel, 5,000 feet, Sinaloa

Observed several times, ^{in the past week} on dry, open slopes where the woodland had been partially cleared and where there were scattered, low brush thickets and a broken, low, plant cover. In physical character, the habitat resembled closely that occupied by the species in Woolsey Canyon, Berkeley, for instance. The notes of these birds, as well as their actions, are identical with those of the more northern birds.

Nov. 6-10 Casita, 40 km. S Nogales, 3300 feet, Sonora.

Common along draws and ^{open or} woodland slopes where there is afforded a low shrubby cover.

Spizella passerina

Oct. 22 El Batel, 5100 feet, Sinaloa

Common locally, in small loose flocks, along the woodland border of large clearing above camp. Probably resident.

Nov. 6-10 Casita, 40 km. S Casita, 3300 ft., Sonora.

With S. breweri or alone, forms small wandering flocks which are either migrant or winter resident.

Melospiza lincolnii

Oct. 21 El Batel, 5100 feet, Sinaloa.

One seen in a brushy thicket bordering a steep slope on the east side of the ridge above camp. It came out while I squeaked to attract another small sparrow I had seen briefly a moment earlier. The Lincoln sparrow remained silent and disappeared into the brush quickly.

Oct. 30 Pitahaya, 40 km. SE Empalme, Sonora.

One seen in brush bordering a slough.

Pitelka, F.A.

Catalog nos. 776-779

Local, 1947

Pitelka
1947

April 13 1 mi NNW Holbrook, 5800 feet, Douglas Co., Nevada.

| | | | | | |
|-----|---|------------|-----------------|---------------------------|---------|
| 776 | ♂ | Aphelocoma | Testis 9 mm. | Coll. by D.V. Hemphill | 73.3 g. |
|-----|---|------------|-----------------|---------------------------|---------|

1 mi NNW Carter (9 mi S E S Gardnerville), 5500 feet,

Douglas Co., Nevada

| | | | | | |
|-----|---|---------------|-----------------|---------------------------|-------|
| 777 | ♂ | Aphelocoma | Testis 9 mm. | Coll. by D.V. Hemphill | 74.7 |
| 778 | ♂ | Aphelocoma | 9 mm. | " | 77.6 |
| 779 | ♂ | Cyanocephalus | 11 mm. | " | 113.9 |

Pitelka, F.A.

Oregon and Nevada, Oct., 1947

Catalog, nos. 780-815

Journal

Species accounts

Pitelka
1947

Catalog 6

1 mi. E Wedderburn, 50 ft. elev., Curry Co., Oregon

October 7, 1947

| | | | | |
|-----|---|--------------------------------|---|----------|
| 780 | ♂ | <i>Parus atricapillus</i> | Testis 1 mm. | 11.2 gr. |
| 781 | ♂ | <i>Aphelocoma coerulescens</i> | Coll. by W.C. Russell Testis 2 mm. | 101.5 gr |
| 782 | ♂ | " " | Coll. by W.C. Russell Testis 1.5 mm. | 106.5 |

October 8, 1947.

| | | | | |
|-----|---|--------------------------------|--------------|-------|
| 783 | ♂ | <i>Aphelocoma coerulescens</i> | Testis 2 mm. | 102.3 |
| 784 | ♂ | <i>Cyanocitta stelleri</i> | " 3 mm. | |
| 785 | ♀ | " " | | 122.0 |
| 786 | ♀ | " " | | 120.0 |
| 787 | ♂ | " " | | 120.3 |
| 788 | ♀ | <i>Dryobates villosus</i> | | 60.4 |

October 9, 1947

| | | | | |
|-----|---|--------------------------------|-----------------------|-------|
| 789 | ♀ | <i>Cyanocitta stelleri</i> | | 118.0 |
| 790 | ♂ | " " | Testis 2 mm. | 122.3 |
| 791 | ♂ | " " | " 2 mm. | 124.0 |
| 792 | ♂ | " " | " 1 mm. | 134.4 |
| 793 | ♀ | <i>Aphelocoma coerulescens</i> | Coll. by W.C. Russell | 85.7 |
| 794 | ♀ | <i>Melospiza melodia</i> | | 20.0 |

October 10, 1947

| | | | | |
|-----|---|--------------------------------|--------------|-------|
| 795 | ♂ | <i>Aphelocoma coerulescens</i> | Testis 2 mm. | 106.0 |
| 796 | ♂ | " " | " 3 mm. | 101.0 |
| 797 | ♂ | <i>Cyanocitta stelleri</i> | " 2 mm. | 132.8 |

E base Granite Mtn., ft., Washoe Co., Nevada.

Oct. 13, 1947

| | | | | |
|-----|---|------------------------------|--------------|----------|
| 798 | ♂ | <i>Catherpes mexicanus</i> | Testis 1 mm. | 12.1 gr. |
| 799 | ♀ | <i>Regulus satrapa</i> | | 5.2 gr. |
| 800 | ♂ | <i>Lophortyx californica</i> | Testis 4 mm. | 165 gr. |
| 801 | ♂ | " " | " 3 mm. | 164 gr. |

Pitelka
1947

2

E base Granite Mtn., 4500 ft., Washoe Co., Nevada

Oct. 14, 1947

| | | | | |
|-----|---|--------------------------------|-----------------|-------|
| 802 | ♀ | <i>Aphelocoma coerulescens</i> | | 78 gr |
| 803 | ♂ | <i>Psaltriparus minimus</i> | Testis 1 mm. | 6.0 |
| 804 | ♀ | " | " | 5.7 |
| 805 | ♀ | <i>Pipilo maculatus</i> | very little fat | 37.2 |
| 806 | ♀ | <i>Myadestes townsendi</i> | mod. fat. | 37.2! |

6½ mi. ESE Tule Pk, 4500 ft., Virginia Mts., Washoe Co., Nevada

Oct. 15, 1947.

| | | | | |
|-----|---|-----------------------------|--------------|------|
| 807 | ♂ | <i>Psaltriparus minimus</i> | Testis 1 mm. | 6.5 |
| 808 | ♂ | <i>Pipilo maculatus</i> | " 1 mm. | 34.4 |
| 809 | ♂ | " | " 1 mm. | 38.1 |

Oct. 16, 1947.

| | | | | |
|-----|---|-----------------------------|------------------------|------|
| 810 | ♀ | <i>Melospiza melodia</i> | | 21.5 |
| 811 | ♂ | " | Testis 1 mm. | 19.5 |
| 812 | ♂ | <i>Zonotrichia coronata</i> | Testis 1 mm. Very fat. | 33.0 |
| 813 | ♀ | <i>Peromyscus</i> | 159-80-20-20 | 14.7 |
| 814 | ♂ | <i>Oreortyx picta</i> | Testis 5 mm. | 247. |
| 815 | ♀ | <i>Parus inornatus</i> | | 14.8 |

Journal

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JOURNAL

3

Oct. 7 1 mi E Wedderburn, 50 ft. \pm elev., Curry Co., Oregon

Left Berkeley yesterday morning^{at 6} with Ward C. Russell. Travelled north through Vallejo, along ^{routes} 29 and 28 through Napa and Calistoga to Geyserville, and then along US 101 through Ukiah, Eureka, and Crescent City to Gold Beach, where we spent the night. This morning, after breakfast, we took a drive across the Rogue River, passed through the small village of Wedderburn on its north shore opposite Gold Beach, and continued along US 101 for about 10 miles or so to get a picture of the prevalent habitat types. After about an hour, we returned to Wedderburn and went on to ^[to Bailey Ranch, Gold Beach, Ore.] the home of Mr. Leslie C. Zumwalt, whose name was given to us by S. G. Jewett. Zumwalt is now the state's game manager in the southwestern coastal district. We talked to him about local problems (state police, game wardens, etc.) and suitable hunting country. He gave us permission to hunt on the Bailey Ranch and recommended that we contact ^(Mr. Moore and family) ~~leasers~~ ^{to the east} of the Lloyd Ranch, neighboring the Bailey Ranch, and much larger (10,000 acres) than the latter. After obtaining permission from Mr. Moore's daughter (Mrs. Hunter) to hunt and camp on the Lloyd ranch, we spoke to the ranch manager, Mr. Cally, who, after some deliberation on good camping sites and in view of an

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Oct. 7 1 mi E Wedderburn, 50 ft. \pm elev., Curry Co., Oregon.

impending rain storm, suggested we use an old milking shed in the barnyard. We welcomed and promptly accepted this suggestion! The 2-room shed has about 3 times the space of our tent; moreover, we are well sheltered, both from above and below!

Neither Mr. Zumwalt nor Mr. Calland his son could say very much about the local distribution of jays. Zumwalt thought scrub jays were more or less generally distributed, occurring particularly ^{brush-filled} along draws in open country but not commonly. It is perhaps significant that he said jays were generally distributed; if this is so, then I am not surprised at his impression that they are not common, as he undoubtedly overlooks them or misses them when they are quiet.

The country along the north side of the Rogue River is surprisingly open with mixed coniferous and broad-leaved trees along with mixed border thickets filling the draws. There seems to be a fair amount of habitat of the type required by scrub jays farther south. In general aspect, the countryside is not unlike the coastal regions of Mendocino or Marin County. Near the mouth

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Oct. 7 1 mi. E Wedderburn, 50 ft. \pm elev., Curry County, Oregon.
of the Rogue River and north of it, there is rolling country, partly cultivated or grazed and otherwise covered with a dense low cover of salal, ^{other shrubs,} *Ceanothus*, *Baccharis*, ferns and tall herbs, except for the draws, which have taller shrubs (e.g., *Alnus*, *Salix*) and certain local islands of vegetation with a few conifer species. There is a cypress here and also a short-needled pine that seems to be confined to the immediate coast. The hills on the south side of the Rogue River are well timbered. We cannot say anything about the region between Crescent City and Gold Beach as we travelled through it after dark — except to say that most of it appeared to be well timbered.

We saw one scrub-jay this morning as we entered the Lloyd Ranch. Also noted Steller-jays here and a few miles to the east in the course of our early morning exploratory trip. Also noted *Sturnella neglecta*, *Melospiza melodia*, *Colaptes cafer*, *Falco sparverius*, *Spinus pinus* and *S. tristis*, *Vireo huttoni*, *Troglodytes troglodytes*, *Zonotrichia coronata*, chickadees, and *Anthus spinoletta*.

After settling down in our barnyard shack we had lunch, and I left to hunt about 12:30

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Oct. 7 1 mi E Wedderburn, 50 ft. \pm elev., Curry County, Oregon.

in a drizzling rain, which gradually became heavier in the ensuing 15 minutes or so. I am pitifully equipped for such weather as this, and returned to the shack after 20 minutes or so. Russell and I will go into town^{later} this afternoon and I will have to get a better raincoat, also some boots and rain hat.

Rain stopped at 1:45, leaving a ~~clouds~~ and scattered fog. The sun broke through occasionally. Left on a hunt down through the flood-plain areas along the Rogue River. The area proved not to be good jay habitat because the shrubby vegetation, which looked promising from the road, consisted chiefly of *Salix* and *Alnus* not at all dense basally and without any marginal thickets to shelter their inner parts. The latter condition may be due to the fact that sheep and cattle graze in open areas between these thickets. Moreover, the thickets are distributed linearly, as though marking former river shorelines; thus it has been easier for cattle to break through than in the few spots where these thickets are wider. Other than *Salix* and *Alnus*, *Umbellularia* was quite common. These riparian thickets merged with mixed conifers (chiefly *Pseudotsuga*) and broad-leaved trees (*Lithocarpus*, *Acer macrophyllum*, *Umbellularia* etc.)

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Oct. 7 1 mi E Wedderburn, 50 feet elev., Curry Co., Oregon
at levels above that of the flood plain. Birds
present in the willows and alders were Parus
atricapillus, Corthylio calendula, Spinus pinus,
and some parulid. In the ^{low} thickets of dead
brush and blackberry, Melospiza melodia was
fairly common; one Thryomanes bewicki and
one Troglodytes troglodytes were also noted in this
habitat. Junco oreganus was present in open areas
bordering thickets.

In the mixed forest vegetation on the
slopes above the flood plain were noted
Cyanocitta stelleri, Regulus satrapa, Dryobates
villosus, Colaptes cafer, Troglodytes troglodytes,
Chamaea fasciata (in tall dense Ceanothus brush
in an opening among trees along a road), and
probably Parus rufescens. One scrub jay was seen
flying high from the edge of such a mixed forest
down into some Eucalyptus trees. A flock of
ravens was observed soaring over open grassy
slopes to the west of the forest area. Also,
in the draws of this open area there is a dense
vegetation from which, and also from patches
of chaparral on the lower slopes of the hills,
Russell has today obtained five specimens of
the scrub jay. The scattered patches of chaparral
consist mainly of Corylus, but mixed in are
Symphoricarpos, Rubus, ^{Rosa}, and Rhus diversiloba,
with a fern (Polystichum) growing everywhere

Patelka
1947

Oct. 7 1 mi E. Wedderburn, 50 feet elev., Curry Co., Oregon
beneath and among the shrubs.

Oct. 8 This morning was cloudy and windy with threat of rain. I left about 6:45 and hunted until about 11. During that time there were occasional sprinkles, but toward noon the rain came more heavily and steadily. Since then it has been raining almost continuously with an increasing wind which now (7:15 p.m.) is driving the rain against the shack's window and rocking the shack slightly on its precarious base.

My route led through a ~~small~~ valley cut by an alder and willow-bordered stream. Toward the inner end of the valley and along its eastern slopes there were extensive areas of coniferous timber. Some impressively large Douglas firs, laurels, and madrones were seen. Later I climbed the northern ^{inner} slopes of the valley and swung back along its west side to return to camp. Along the upper parts of the west-side draws there were patches of Corylus chaparral with thickets of willow, Holodiscus, Corylus, and other tall shrubs filling the main cut, often ^{with steep} 10-15 foot slopes. Scattered along the upper reaches of each of the larger draws were individuals of Pseudotsuga and Umbellularia.

On the valley flat, both Steller and scrub jays were present. Here, and for that matter everywhere else that at least scattered, good sized conifers

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Oct. 8 1 mi E Wedderburn, 50 ft. elev., Curry Co., Oregon.
were present, the Steller jay was common. The first seen were feeding along the stream and apparently at least one and possibly two scrub jays were associating with them. Subsequently, a pair of scrub jays was found in a small opening ($\frac{1}{2}$ acre or so) in the fir timber, again near the main stream, where there were willows, scattered apple trees of an old orchard, and other trees. Later two were seen in the upper parts of one of the west draws, flying across dense Corylus-Holo-discus chaparral down into the willow thickets.

Species noted in the dense willows and ^{Hylodichla guttata} chaparral were Pipilo maculatus, Thryomanes bewickii, Chamaea fasciata, Corthyliis calendula, Melospiza melodia (very common), Passerella iliaca, and Troglodytes troglodytes. The last-named was of course more common near or in coniferous forest. One Black-throated Gray Warbler was noted in willows. Golden-crowned Sparrows and Oregon Juncos were present along chaparral edges feeding in the grass. Passerculus sandwichensis was common on the higher grassy slopes and flats. A flock of Violet-green Swallows flew overhead. Other species noted were Turdus migratorius, Hylodichla ustulata, Sialia



Oct. 8 1 mi E Wedderburn, 50 feet elev., Curry Co., Oregon.
mexicana, Parus rufescens, Vireo huttoni (also in
 willow draws with species listed earlier),
Wilsonia pileolata, ^{and} Dendroica auduboni,

Species noted along the Rogue River yesterday, but not recorded then were one adult Glaucous-winged gull and a flock of five Wood Ducks including at least one and possibly two ^{adult} males. The remaining three ducks were either immatures or females.

Oct. 9 Rain continuous through the morning, stopped shortly after 1. I hunted in the main valley to the north of us; failed to get any scrub jays but collected 4 stelleri in the course of my efforts. Four scrub jays were seen in one draw; three left in a group flying some distance into another draw while the fourth stayed. Later three were seen in an alder-willow draw above an old orchard. All were very wary.

Noted Sitta canadensis among chestnut-backed chickadees and golden-crowned kinglets; also heard Bubo virginianus, a pair. Buteo jamaicensis is fairly common, relatively speaking.

Oct. 10 Heavy rain and strong wind from 3 to about 8 a.m. Hunted to the west of the Lloyd Ranch headquarters, over the main ridge and down through the Bailey Ranch to the ocean-shore road, thence by way of this road to Wedderburn and along U.S. 101

Pitelka
1947

11

Oct. 10

1 mi. E Wedderburn, 50 ft. elev., Curry Co., Oregon.

Back to the Lloyd Ranch. The draw along which I hunted on the east side of the ridge was filled with beautiful groves of Douglas fir, madrone, laurel, Acer macrophyllum. There are some species of willow (specimen collected) which grows here on surprisingly upland, well-drained slopes. Noted small patches of Quercus garryana near the upper end of this draw, also azalea and Pinus sp. The last two were more common on the west side of the draw, where the pine occurred in small groves of 6-10 trees. Few young pines were noted. The azalea occurred there in extensive stands forming a chaparral. Rhamnus lanceolata is fairly common. Also noted a Garrya and a wild apple.

Two single individuals of the scrub jay were noted along the draw on the east side of the ridge; the first was collected, the second was near a flock of 5 or 6 Steller jays, of which 3 were shot, but only 1 retrieved. In both areas, the scrub jays were present along the edge of a mixture of Douglas fir, broad-leaved trees, and some brush. One pair was present on the west side of the ridge in the draw above the

Pitelka
1947

Oct. 10 1 mi. E Wedderburn, 50 ft., Curry Co., Oregon
Bailey Ranch headquarters. One of them
was collected. A lone individual was observed in the backyard of one of the cottages in Wedderburn.

From the observations on the local occurrence of the scrub jay made by both Russell and myself, it appears that there is no difference in habitat relations, at this time of year ^{at least,} between this population and that of the Berkeley hills. It is of interest that scrub jays here live among scattered Douglas firs and along the edges of Douglas fir timber, and they make use of these trees ^{at least} as look-outs. But in this respect, they may appear to differ from the Berkeley Hills population, in whose habitat there are no conifers; but in areas around Berkeley where conifers have been planted, providing other features of the habitat are favorable, jays are present and make use of the conifers as those here do. My general impression is that the population here, for the month of October, is not as high as in the Berkeley Hills; yet the jays are regularly distributed and occur on most of the areas of suitable habitat. Our collecting has yielded a majority of adult individuals, and it would appear that the reason for my impression about

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Oct. 10 1 mi E Wedderburn, 50 ft., Curry Co., Oregon.

difference in population density may be due to the local absence of ~~the~~ conspicuous groups of first-year birds.

Steller jays are more common than scrub jays. Most areas with only a moderate number of good-sized conifers, not necessarily with island stands of several trees, will have a pair or a small group. Steller jays of course occur within and along the edges of dense stands, but in marginal habitat, they overlap in local distribution with scrub jays. Here, as in the Berkeley Hills, the species often associate with each other in loose flocks.

Noted *Carpodacus purpureus* today. Also, both Russell and I ^{each} observed ^{small flocks of} a fringillid several times during our stay here which we believe to have been Evening Grosbeaks.

Oct. 11 Left Wedderburn this morning about 7:30. Headed south toward Crescent City, stopping briefly at Brookings to see whether there might be an obvious area where scrub jays might be found easily. Some suitable habitat was seen, but no scrub jay was seen nor heard. Because I felt we should get started on our long trip ahead into western Nevada, I decided against spending any time there searching for jays. South of Smith River we took the cut-off to Route 199; along this cut-off we

P. Felka
1947

Oct. 11 Enroute to NW Nevada.

passed through the most magnificent redwood forest I have ever seen. Also, south of Pistol River, perhaps 4 or 5 miles, there is a sandy area with some closed-cone pine, several ericaceous shrubs, and other interesting plants of such habitats. It would bear investigation.

We travelled along Route 199 through Grants Pass, Medford, and Ashland, thence directly east to Klamath Falls and through Beatty to Lakeview, where we spent the night. Along this transect, one passed through (1) redwood, (2) Douglas fir, with an increasing representation of some pine that looked like P. lambertiana, (3) thence into yellow pine and black oak with decreasing representation of Pseudotsuga and increasing representation of Abies concolor [around Medford and Ashland, there are extensive black oak woodlands and forests]; (4) more or less pure yellow pine ^{in the region} between Ashland and Klamath Falls, (5) extensive mixtures of yellow pine and juniper east of Klamath Falls. Yellow pine disappeared after we passed through the northern reaches of the Warner Mountains east of Lakeview on the 12th. Here also ~~White~~ fir reappeared ^{more or less} on protected and north-facing slopes somewhat mixed with yellow pine and juniper.

Patelka
1947

Oct. 12 Enroute to NW Nevada.

We left Lakeview heading eastward to Adel in the Warner Valley, thence south into NE California [through Fort Bidwell, Cedarville, and Eagleville], and continuing south-eastward to Gerlach. From Gerlach we headed back north onto the east slopes of the Granite Range and are now camped ^[summit at 8990 feet] on the east side of Granite Peak, at approximately 4000 feet. The surrounding area is all sagebrush. There are scattered groves of juniper higher up (apparently no pinon). Some small green patches of seemingly dense shrubbery are evident in one pocket; this may be Amelanchier or mountain mahogany. Also, there are several extensive patches of aspen on the east slope and ^{more} toward the northern end of the range. Altogether, there is only scattered vegetation of stature greater than sagebrush and similar small scrubs.

Along the east side of the Warner Valley, there is a mountain range with junipers along its crest. This apparently culminates northward around Hart Mtn., on which the californica-type ^{also,} has been collected. The known occurrence of this type around Adel would suggest that this ^{to the east} range may be inhabited by the same type.

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Oct. 12 Enroute to NW Nevada.

The south end of the Warner Valley is formed by a cross ridge between this range and the main Warner Mts.; which fact further attests to the probable presence of the california type.

Along the Calif.-Nev. line, to the east of the three lake beds in eastern Modoc County, there is a long mountain range along the crest of which juniper woodland occurs. It becomes more barren southward, with only scattered patches of woodland at the lower end of Lower Lake. Then, along the road across the state line, toward Gerlach, one passes out of the main valley of the three lake beds across a pass along which there is juniper woodland. This would seem to be another avenue of dispersal from the main Warner Mountain axis. To the south of the Gerlach road (route 81), ^{more or less} parallel to it and running in a southeastward direction is a tongue of juniper woodland extending 15 miles or more into Nevada. About $\frac{2}{5}$ of the distance between the state line and Gerlach, we passed over another low pass, on the east side of which there was sparse juniper woodland. From this pass we had our first full view of the Granite Range, a

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Oct. 12 Enroute to NW Nevada.

steep,
rugged range with extensive slide areas along its crest and several irregular, seemingly unvegetated cones formed by the slides on the highest points. There is a more or less unbroken belt of juniper on the east side, nowhere forming any dense stands. Willows occur along the lower portions of the draws. A peak, name unknown, to the northeast of the Granite Range appeared to be covered at the top with a crescent of mountain mahogany, not junipers. This was determined by study through my 8x binoculars. Juniper woodland was noted ^{on the range} to the west of Granite Mtn., also at the highest elevations on the range immediately to the east of Gerlach, and on the mountains of the north end of the Lake Range.

Oct. 13 Hunted this morning to the south of camp, along a draw cutting into a ridge that extends more or less eastward from Granite Mountain. There were two main areas of willow, with a considerable amount of wild rose mixed in. One shrub which appeared to be ^{I proved to be Amelanchier (A. alnifolia?)} Amelanchier was noted also along the bottom of the draw*. The surrounding slopes were covered with a woodland of relatively low-growing, ^{and spreading,} more

* A Prunus (P. andersonii?) also collected here.

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Oct. 13 E base Granite Mtn., 4500 ft., Washoe Co., Nevada.
 or less shrub-shaped junipers, most of them
 from 4 to 8 feet high. Birds noted in the
 willow area were *Thryomanes bewickii* (1),
Melospiza melodia (1), ^{and} *Pipilo maculatus* (1).
 Large numbers of quail were present both in the
 willow areas and on the slopes below them;
 apparently they were leaving roosting places
 to go down to the sage flats to feed. As I
 approached the ^{lower} willow area, one group of 50±
 birds flushed and then another of about 25
 immediately afterward and a short distance
 to the east of the first group. In the juniper
 woodland, and moving into the edge of the
 willows at times, was a flock of 5 or 6 Golden-
 crowned Kinglets. About 3 Ruby-crowned Kinglets
 were also seen both in the woodland and the
 edge of the willows. Other species noted were
 Robin (flock of 8 dropped down into the willow
 draw, apparently a migrating group), Junco
 (several in juniper woodland), Raven (one
 along ridge), Magpie (2 feeding in woodland
 area, exchanging calls intermittently, observed
 to fly up from sage flat, in the direction from a
 ranch house. Two Canyon Wrens were
 noted among rocks along a dry branch of
 the main draw. Two Solitaires were seen,
 one chasing the other, then returning to the area

Patelka
1947

Oct. 13 E base of Granite Mtn., 4500 ft., Washoe Co., Nevada.
from which the chase began. Both called inter-
mittently, giving a soft whistled note. Later
one was observed catching insects on wing,
and apparently the same bird was seen
and heard performing a flight-song in a
wide-circle flight. A nuthatch was heard
briefly; identity uncertain, probably S. caro-
linensis. Also a small group of ^{evidently} spizellids (3-4
individuals) was noted in the upper willow
area. On the sage flats below the juniper
woodland, a flicker, two meadowlarks, and
a flock of 4 pure vesperis were seen. A Wilson
Spizel was flushed at the edge of the stream near camp.
Throughout the morning there was neither
sound nor sight of any scrub jay. Through-
out my stay on the juniper area, the air
was dead still and the fact that I could
hear ^{various} birds from long distances assured
me that if any scrub jay uttered any of
its usual calls, I would have heard them.
Considering the area of juniper woodland,
bird-life was sparse; it was densest near in
in the willow areas.

Russell, however, did hear and see two or
three scrub jays, one in the vicinity of an aspen-
filled draw to the west of camp, and one or
two in a juniper area northwest of camp. He was
unable to collect any as they were too wary.

Pitelka
1947

Oct. 14 E base Granite Mtn., 4500 ft., Washoe Co., Nevada.

Hunted this morning along the lower ^{eastern} slopes of the main range, west of camp, in two draws grown to aspen and willows, but also containing considerable amounts of Rosa, a cherry tree, ^{Cercocarpus} and other shrubs of lesser import — including a small-leaved maple unknown to me. These areas excessively disturbed by sheep and probably to some extent by cattle also; as a result natural ground cover and normal edge situations are very much reduced. Species ^{and in the vicinity of the aspen groves} seen here were Evening Grosbeak (flock of approx. 40), Robins, Townsend Solitaires, Bush-tits, several Red-breasted Nuthatches, Spotted Towhee, Song Sparrow, Audubon Warblers, Ruby-crowned Kinglets, small flock of White-crowned Sparrows, Oregon Juncos, Red-shafted Flickers, American Goldfinch (one only), Pine Siskin, Meadowlarks, California Quail, and Arct. Jay. A flock of Bush-tits, a Bewick Wren, and a Song Sparrow were noted ^{in willows} along a stream just a short distance west of camp. In the late afternoon, Russell collected a Mountain Chickadee ^{in the ~~stream~~ ^{border}} willows near camp. Russell reported a piñon jay flying along with a flock of 5 robins; He also noted two pairs of Plain Titmouses in the juniper woodland and collected two individuals.

Pitelka
1947

Oct. 14 E base Granite Mtns., 4500 ft., Washoe Co., Nevada.

The single scrub jay was present in a *Prunus-Salix-Rosa* thicket and was heard calling. The questioning note it gave [the only one heard] did not sound different from the same note of the coastal forms. It responded to squeaking. It proved to be a first-year female about $\frac{2}{3}$ through the incomplete fall molt. It was pale dorsally, but the posterior underparts appeared to be too white for *A. c. nevadæ*. Unfortunately, I had to shoot it with a load of ten's or risk losing it; as a result the bird was considerably damaged, most of the upper ^{and the collar pattern} mandible, having been shot away.

The west face of the range along the west side of the southern end of the Black Rock Desert is barren of any woodland or riparian habitat.

Oct. 15 Left the Granite Range this morning; headed southward via Gerlach to Nixon (Paiute Indian Agency) at the southern end of Pyramid Lake. From here we followed the northwestward route along the west side of Pyramid Lake, to Sutcliffe [not shown on Reno quadrangle], where we made inquiries concerning camp sites in Virginia Mountains. We were advised to go up a canyon just west of Sutcliffe, onto the TH

Pittell
1947

Oct. 15 $6\frac{1}{2}$ mi. ESE Tule Pk, 4500 ft., Virginia Mts, Washoe Co., Nev.
Ranch [Neil West, proprietor]. Here we were permitted to use an old stone cabin for our headquarters, about $\frac{1}{4}$ mile below the main TH Ranch houses and barns. We were told at Sutcliffe that the TH Ranch used to be a dude ranch, but is now mainly a horse ranch.

The surrounding country is juniper woodland, nowhere very well developed. The main canyon has [or did have] a well-developed riparian vegetation of Salix, Rosa, Populus, and Chunus. All of the flat areas along the main stream are or have been cultivated. There is extensive ^{grazing} disturbance all along the stream, and the slopes are covered with ^{loose soil and} a red rock rubble which are also disturbed all along the main canyon.

We arrived here about 11. Shortly after I left on a hunt up the main canyon for at least a mile, to a grove of aspens growing in one of the east-facing ^{upper} branches of the north arm of the main canyon. There was a strong wind throughout the time I spent outside, until past 4. No birds were heard or seen. Other species noted were Lophortyx californica, Oreortyx picta, Sturnella neglecta, Otocoris alpestris, Colaptes cafer (common), Pipilo maculatus, Melospiza melodia, Zonotrichia coronata and Z. leucophrys, Salpinctes minimus, Thryomanes bewickii, Catherpes mexicanus,

Patelka
1947

Oct. 15 $6\frac{1}{2}$ mi ESE Tule Pk, 4500 ft., Virginia Mts, Washoe Co., Nev.
Spinus tristis, Carpodacus mexicanus, Sitta
canadensis, Oxyechus vociferus, and Junco oreganus.
 The weather was unfavorable for effective
 hunting, quite apart of the facts of time of day
 and time of year, so that relatively few
 birds were noted.

The riparian vegetation together with
 adjoining woodland would seem to
 provide suitable habitat for scrub jays
 unless the excessive grazing may now
 operate to change it effectively. Other pos-
 sible explanations for their absence are
 excessive local shooting, as evidenced by
 abundance of various sized empty shells
 on the ranch grounds; local absence of
 piñons, that is, a woodland without
 piñons may be a marginal habitat
 not necessarily all occupied; local
 post-breeding and late summer-early
 fall movements from areas which become
 very warm then (I doubt ^{breeding pairs of} scrub jays would
 leave the area). The fact remains that
 scrub jays have been collected in this area,
 probably on the very grounds of the TH
 Ranch, and I do not see why they should
 be absent.

Patelka
1947

Oct. 15 6 1/2 mi ESE Tule Pk, 4500 ft, Virginia Mts, Washoe Co., Nev.

South of Gerlach, we followed route 34. Along the east side of that route, from the mountains just east of Gerlach, south to Kinnia Pk., there is a sparse juniper woodland along the crest of the mountains (Selenite Range). Along the west side of route 34, beyond a large, north-south running unvegetated flat, occur the upper mountains of the Lake Range. These also have a juniper woodland. On neither ranges, however, is there much water, and under the clouded sky conditions and because of distance, I could not be sure if any suitable stream-border areas occurred. As far as I could tell, none occurred. Along route 34, at the southern end of the Selenite Range, we passed over a ridge, with the mountains to the east of us, apparently a spur of the Lake Range, bare of woodland. South of this ridge we passed along the west side of the Winnemucca Lake bed, and the Nightingale Range to the east as well as the Lake Range to the west were bare of woodland except for a small area along the crest of the latter range, apparently to the south of Toiyah Peak. The mountains just south of Pyramid Lake (Virginia Mts.) are ^{also} covered with a scattered juniper woodland.



Patelka
1947

Oct. 16 6½ mi ESE Tule Pt, 4500 ft., Virginia Mts., Washoe Co., Nev.

Rain during part of the night. Rain almost steadily during the morning. Brief let-ups permitted us to go out for an hour or so hunting. I obtained 2 Song Sparrows, and after about 45 minutes was too wet and uncomfortable to continue. Birds were very quiet, what few were present.

In the afternoon, rain stopped about 2:30 and the wind calmed down by four or so, starting up again at 5. I hunted in three of the draws of the main canyon behind and to the west of the ranch headquarters. Saw a flock of bush-tits accompanied by 2 Rufous-crowns, a pair of Plain Titmice, and a Bewick Wren. Also noted ^{groups of} 3 Mountain Bluebirds feeding over slopes in juniper woodland, a pair of Rough-winged Swallows, a Mourning Dove, several Townsend Solitaires, ^{and hairy woodpeckers} Two flocks of California Quail were seen on the canyon flat along the edges of riparian vegetation; one flock of Mountain Quail were seen on a slope above the canyon flat, where a spring was present. This morning, a pair of Green-backed Goldfinches was observed. Several magpies were seen this morning and this afternoon. Two were observed in what might have been a territorial

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Oct. 16 6½ mi. ESE Tule Pk, 4500 ft., Virginia Mts., Washoe Co., Nev.
chase: One ~~chased~~ another vigorously high in the air, away from a juniper-woodland slope on the southside of the main canyon; when the chase had reached a point roughly over the middle of the canyon, the chaser turned back to the juniper-covered slope, while the chased continued straight in the direction of the chase, crossing the canyon, the ridge along the north side, and seemingly continued for some distance beyond.

Oct. 17 Left camp this morning. In the middle of our 'truck-packing', a scrub jay called several times up on a south-facing slope opposite our cabin. Russell went up promptly to try to collect it, but without success. We drove to Reno and spent the remainder of the day visiting with members of the Nevada State Fish and Game Commission and of the biology faculty at the University (Fisher and Billings).

Oct. 18 After breakfast at Fisher's home, Russell and I went to a locality 2 mi E and 1 mi S of Steamboat Springs, Southern Washoe Co., where, in June, 1946, I had found scrub jays breeding and occurring at fairly regular intervals along the canyon bottom. In 2½ hours' hunting, I saw a group of 4 and later a lone individual. The jay in the group of 4

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Oct. 18 2 mi E, 1 mi S Steamboat Springs, 5000 ft., Washoe Co., Nev.
made no noise at all and were detected by me from a hiding place where I had been waiting, owl-calling and squeaking intermittently trying to attract jays. When seen, they were up slope from me, more or less drifting along, feeding every now and then. I took a shot at the closest individual, but it was probably too far out of shot range, and following that the birds moved on. The lone individual squawked twice, whereupon I hid and tried to attract it by squeaking, but without success. Russell obtained one, but found several others he saw quiet, and unapproachable. Most of the jays ignored any squeaks or owl calls.

Oct. 19. This morning we hunted early to see whether or not an early start would improve our luck. H. I. Fisher joined us in hunting. The weather was perfect both yesterday and today. Our experience was repeated. I saw two, of which one squawked several times, promptly left for parts unknown! The other was moving quietly up slope from me and did not respond to calling. Russell saw nor heard none. Fisher saw a group of 4, probably the same I saw yesterday, and obtained one which was flying more or less toward him and probably unaware of his presence.

Pitelka
1947

Oct. 19 2 mi E, Inn's Steamboat Springs, 5000 ft, Washoe Co., Nev.

Other species noted here yesterday and today were Lophortyx californica, Colaptes cafer, Gymnorhinus cyanocephalus, Parus gambelii, Parus inornatus, Psaltirius minimus, Thryomanes bewickii, Catherpes mexicanus, Turdus migratorius, Myadestes townsendi, Corthylio calendula, Spinus tristis, Spinus pinus, Carpodacus mexicanus, Pipilo maculatus, Junco oreganus, Zonotrichia leucophrys.

After our difficulties in getting but three specimens in a week's time in Nevada, we decided to return to Berkeley. We left Reno at 11:15 a.m. and arrived in Berkeley shortly after 5.

Species accounts.

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Pica pica

Oct. 11 1 mi E Keno, Klamath Co., Oregon

One seen along road through juniper woodland.

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Cyanocitta stelleri

Oct. 11 5 mi. N Pistol River, Curry Co., Oregon.

One seen.

Brookings, Curry Co., Oregon.

Several noted during brief stop.

3 mi. W Gasquet (US 199), Del Norte Co., Calif.

One seen.

2 mi SW Idlevild, Del Norte Co., Calif.

Two seen.

1 mi SW Pale View Summit, approx. 2400 ft.

One seen.

12 mi SE Ashland, Jackson County, Oregon

One seen in black oak woodland.

Oct. 12 5 mi. NNE Lakeview, Lake Co., Oregon.

Two seen in yellow pine - Douglas fir - juniper woodland.

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Aphelocoma coerulescens

Oct. 12 7 mi S Fort Bidwell, Modoc Co., Calif.

One seen flying onto a barn from a juniper-Artemisia slope.

5 mi S Eagleville, Modoc Co., Calif.

One seen along a row of willows ^{in sagebrush area,} moving in direction of juniper woodland.

Pitella, F.A.

Santa Cruz Island, Calif.

Aug.-Sept., 1948

Catalog, nos. 816-920

Journal

Species accounts

List of Birds

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Catalog
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Santa Cruz Island, 50 ft., Santa Barbara Co., Calif.

August 29, 1948

- 816 ♂ *Aphelocoma* ad. testis 3 mm. 131.2 gr.
817 ♀ " 1st-year. 103.2 gr.

Prisoner's Harbor, 10 ft., Santa Cruz I., Santa Barbara Co., Calif.

August 29, 1948

- 818 *Hyla*
819 "
820 "
821 "

August 30, 1948

- 822 *Uta*

1/2 mi. W Stanton Ranch Hdqtrs, Santa Cruz I., Santa Barbara Co., Calif.

August 30, 1948

- 823 *Uta*
824 *Uta*
825 *Hyla*
826 ♀ *Colaptes cafer* 156.5
827 ♂ *Aphelocoma* ad. testis 4 mm. 129.4
828 ♀ " ad. 107.9
829 ♀ *Aphelocoma* ad. 107.0

2 mi. SW Prisoner's Harbor, Santa Cruz I., Santa Barbara Co., Calif.

August 30, 1948

- 830 ♂ *Vermivora ~~calata~~ ruficapilla* testis 1 mm. 7.8 gr.
831 ♂ *Colaptes* juv. testis very small. 130.5

August 31, 1948

- 832 *Uta*
833 ♂ *Aimophila ruficeps* skeleton 16.3 gr.

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Aug. 31 2 mi. S.W. Prisoner's Harbor, Santa Cruz I., Santa Barbara Co., Calif.

834 ♂ *Wilsonia pusilla* Testis 1 mm. 6.8 gr.

835 ♂ *Balanosphyra* Testis 2 mm. 81.3

Prisoner's Harbor, Santa Cruz I., Santa Barbara Co., Calif.

836 ♂ *Vermivora celata* skeleton 8.6 gr.

837 ♂ *Aphelocoma* ad. testis 3 mm. 128.6

838 ? *Myiarchus* 20.0

839 *Hyla*

840 *Hyla*.

Sept. 1 High ridge 1 mi. S Prisoner's Harbor, Santa Cruz I., Santa Barbara Co., Calif.

841 *Uta* 5.7 gr.

842 *Sceloporus* 9.7

843 ♂ *Aimophila* testis 3 mm. skeleton 21.1

844 ♂ *Aimophila* testis 2 mm. skeleton 18.5

845 ♀ *Vireo huttoni* } a pair 10.8

846 ♂ *Vireo huttoni* } testis 2 mm. 10.0

847 ♂ *Aphelocoma* ad. testis 4 mm. [Exchange Coll.] 132.6

Prisoner's Harbor, Santa Cruz I., Santa Barbara Co., Calif.

848 *Coluber*

849 ♂ *Empidonax traillii* 14.5

Sept. 2

850 ♀ *Aimophila* juv. 18.0

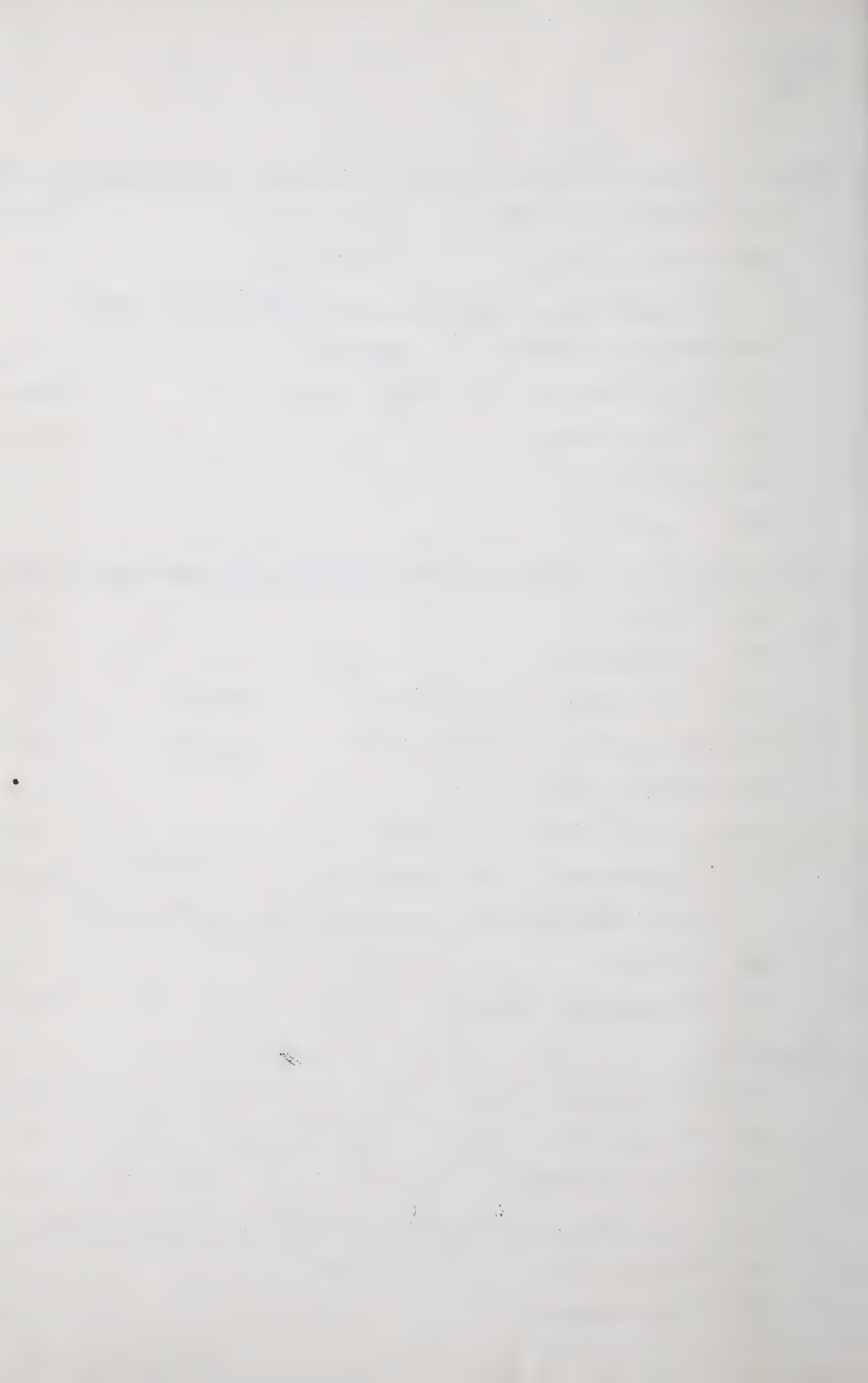
851 ♂ *Aimophila* juv. testis 1 mm. 19.1

852 ♀ *Colaptes cafer* 146.0

3 mi. W Stanton Ranch Hdqtrs., Santa Cruz I., Santa Barbara Co., Calif.

853 ♂ *Aphelocoma* testis 2 mm. 121.9

854 ♀ *Aphelocoma* 113.6



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Sept. 3 2 mi. SW Prisoner's Harbor, Santa Cruz I., Santa Barbara Co., Calif.

| | | | | | |
|-----|---|---------------------------|--------------|-----------------------|---------|
| 855 | ♂ | <i>Vermivora celata</i> | testis 1 mm. | [Exchange Coll. ♂] | 9.1 gr. |
| 856 | ♀ | <i>Spizella passerina</i> | | | 11.7 |
| 857 | ♀ | <i>Aimophila</i> | | | 18.7 |
| 858 | ♂ | <i>Balanosphyra</i> | testis 2 mm. | | 80.0 |

Sept. 4 5½ mi. W Stanton Ranch Hdqrs, 1400 ft., Santa Cruz I., Calif.

| | | | | | |
|-----|----|-------------------------|------------------------------|-----------------------|-------|
| 859 | ♂ | <i>Aphelocoma</i> | testis 3 mm. | | 119.2 |
| 860 | ♀ | " | | [Exchange Coll. ♂] | 111.2 |
| 861 | ♀ | " | | | 107.3 |
| 862 | ♀ | " | | [Exchange Coll. ♂] | 108.6 |
| 863 | ♂? | " | 1st-year (p-j. molt) | | 106.2 |
| 864 | ♂ | " | ad. testis 3 mm. | | 130.0 |
| 865 | ♀ | " | ad. | | 100.0 |
| 866 | ♀ | " | 1st-year | | 99.7 |
| 867 | ♀ | <i>Falco sparverius</i> | | | 120.0 |
| 868 | ♂ | <i>Pipilo maculatus</i> | testis 2 mm. <u>skeleton</u> | | 44.6 |

Sept 5. Prisoner's Harbor, 10 ft., Santa Cruz I., Santa Barbara Co., Calif.

| | | | | | |
|-----|---|----------------------------|--------------|-----------------------|------|
| 869 | | <i>Hyla</i> | | | |
| 870 | ♀ | <i>Passercella melodia</i> | 1- | | 19.0 |
| 871 | ♂ | <i>Vermivora celata</i> | testis 1 mm. | [Exchange Coll. ♂] | 9.3 |
| 872 | ♂ | <i>Vermivora celata</i> | " 1 mm. | | 9.4 |
| 873 | ♂ | <i>Thryomanes bewickii</i> | " 2 mm. | | 12.7 |

Sept. 6

| | | | | | |
|-----|----|--|----------------|----------|------|
| 874 | ♂ | <i>Troglodytes aedon</i> | testis 1 mm. | immature | 11.0 |
| 875 | ♂? | <i>Vermivora ruficapilla</i> | | | 8.7 |
| 876 | ♂ | <i>Xanthocephalus</i> <i>Agelaius phoeniceus</i> | testis 1.5 mm. | | 70.0 |
| 877 | ♂ | <i>Vermivora celata</i> | " 1 mm. | | 10.0 |
| 878 | ♀ | <i>Vireo gilvus</i> | | Very fat | 14.7 |

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Sept. 6 Prisoner's Harbor, Santa Cruz I., Santa Barbara Co., Calif.

| | | | | | |
|-----|---|-------------------|-----------------|------------------|----------|
| 879 | ♀ | <i>Aphelocoma</i> | ad. | | 113.4 gm |
| 880 | ♂ | " | ad. testis 4mm. | [Exchange Coll.] | 127.6 |

4 mi. E Stanton Ranch Hdqtrs., 1200 ft., Santa Cruz I., Calif.

| | | | | | |
|-----|---|-------------------|------------------|--|-------|
| 881 | ♂ | <i>Aphelocoma</i> | ad. testis 4mm. | | 123.0 |
| 882 | ♀ | " | ad. | | 117.2 |
| 883 | ♂ | " | juv. testis 2mm. | | 119.3 |

Sept. 7 Prisoner's Harbor, 10 ft., Santa Cruz I., Santa Barbara Co., Calif.

| | | | | | |
|-----|---|----------------------------|------|-----------------|-------|
| 884 | ♀ | <i>Pipilo maculatus</i> | | <u>skeleton</u> | 41.7 |
| 885 | ? | <i>Dendroica aestiva</i> | imm. | Very fat | 10.7 |
| 886 | ♀ | <i>Thryomanes bewickii</i> | ad. | | 10.4 |
| 887 | ♀ | <i>Tyrannus verticalis</i> | imm. | Very fat. | 50.0 |
| 888 | ♀ | <i>Aphelocoma</i> | ad. | | 117.0 |
| 889 | ♀ | " | ad. | | 111.6 |

Stanton Ranch Hdqtrs., Santa Cruz I., Santa Barbara Co., Calif.

| | | | | | |
|-----|---|----------------------|--------------|------------------|-------|
| 890 | ♀ | <i>Colaptes</i> | juv. | | 142.0 |
| 891 | ♀ | ad <i>Aphelocoma</i> | | | 105.4 |
| 892 | ♂ | ad " | testis 3 mm. | | 121.0 |
| 893 | ♀ | ad " | | [Exchange Coll.] | 117.5 |
| 894 | ♀ | 1st-y " | | | 113.8 |

Sept. 8 Prisoner's Harbor, 10 ft., Santa Cruz I., Santa Barbara Co., Calif.

| | | | | | |
|-----|---|---------------------------------------|------|----------|-----|
| 895 | ♀ | <i>Vermivora</i> ^{virginiae} | imm. | Very fat | 8.6 |
|-----|---|---------------------------------------|------|----------|-----|

Sept. 9 2 mi. SW Prisoner's Harbor, Santa Cruz I.

| | | | | | |
|-----|---|--------------------------|-------------|--|------|
| 896 | | <i>Hyla</i> | | | |
| 897 | | <i>Uta</i> | | | 4.7 |
| 898 | | <i>Uta</i> | | | 3.9 |
| 899 | ♂ | <i>Vireo huttoni</i> | testis 1mm. | | 11.0 |
| 900 | ♂ | <i>Selasphorus sasin</i> | " 1mm. | | 3.2 |

Sept. 9 Prisoner's Harbor, 10 ft., Santa Cruz I., Santa Barbara Co., Calif.

| | | | | |
|-----|-------|-------------------|--------------|-------|
| 901 | ♂ ad. | <i>Aphelocoma</i> | testis 2 mm. | 115.2 |
|-----|-------|-------------------|--------------|-------|

Sept. 10

| | | | | |
|-----|-------|------------------|--|---|
| 902 | ♀ ad. | <i>Phasianus</i> | | — |
|-----|-------|------------------|--|---|

| | | | | |
|-----|--------|--------------------|--------------|------|
| 903 | ♂ imm. | <i>Passerculus</i> | testis 1 mm. | 16.4 |
|-----|--------|--------------------|--------------|------|

| | | | | |
|-----|--------|--------------------------------|--|-----|
| 904 | ♀ imm. | <i>Troglodytes troglodytes</i> | | 9.2 |
|-----|--------|--------------------------------|--|-----|

Sept. 11 5½ mi. W Stanton Ranch Hdqtrs., 1400 ft., Santa Cruz I.

| | | | | |
|-----|-------|-------------------|--------------|------|
| 905 | ♂ ad. | <i>Carpodacus</i> | testis 1 mm. | 23.0 |
|-----|-------|-------------------|--------------|------|

| | | | | |
|-----|---------|-------------------|---------|-------|
| 906 | ♂ 1st-y | <i>Aphelocoma</i> | " 1 mm. | 125.0 |
|-----|---------|-------------------|---------|-------|

| | | | | |
|-----|------|---|---------|------------------------|
| 907 | ♂ ad | " | " 3 mm. | [Exchange Coll.] 123.4 |
|-----|------|---|---------|------------------------|

Christy's Ranch, 30 ft., W end Santa Cruz I.

| | | | | |
|-----|--------|---------------|--------------|------|
| 908 | ♂ imm. | <i>Pipilo</i> | testis 1 mm. | 47.0 |
|-----|--------|---------------|--------------|------|

| | | | | |
|-----|--------|----------------------------|--|------|
| 909 | ♀ imm. | <i>Dendroica townsendi</i> | | 10.0 |
|-----|--------|----------------------------|--|------|

| | | | | |
|-----|------|---------------------------|--------------|-------|
| 910 | ♂ ad | <i>Sturnella neglecta</i> | testis 3 mm. | 113.2 |
|-----|------|---------------------------|--------------|-------|

Sept. 12 Prisoner's Harbor, 10 ft., Santa Cruz I.

| | | | | |
|-----|--------|-------------------|--------------|------|
| 911 | ♂ imm. | <i>Geothlypis</i> | testis 1 mm. | 10.0 |
|-----|--------|-------------------|--------------|------|

| | | | | |
|-----|---|-----------------|---|-------|
| 912 | ♂ | <i>Colaptes</i> | " | 153.1 |
|-----|---|-----------------|---|-------|

| | | | | |
|-----|------|-------------------|---|-------|
| 913 | ♂ ad | <i>Aphelocoma</i> | " | 141.6 |
|-----|------|-------------------|---|-------|

| | | | | |
|-----|--------|-------------------|---------|-------|
| 914 | ♂ imm. | <i>Aphelocoma</i> | " 3 mm. | 147.2 |
|-----|--------|-------------------|---------|-------|

| | | | | |
|-----|-------|---|---------|-------|
| 915 | ♂ ad. | " | " 3 mm. | 125.7 |
|-----|-------|---|---------|-------|

| | | | | |
|-----|-------|---------------|--------|------|
| 916 | ♂ ad. | <i>Lanius</i> | " 3 mm | 50.9 |
|-----|-------|---------------|--------|------|

Sept. 13

| | | | | |
|-----|--|------------|--|-----|
| 917 | | <i>Uta</i> | | 4.7 |
|-----|--|------------|--|-----|

| | | | | |
|-----|-------|-------------------|--|-------|
| 918 | ♀ ad. | <i>Aphelocoma</i> | | 117.4 |
|-----|-------|-------------------|--|-------|

| | | | | |
|-----|-------|---|--|-------|
| 919 | ♀ ad. | " | | 112.1 |
|-----|-------|---|--|-------|

| | | | | |
|-----|-------|---|--------------|-------|
| 920 | ♂ ad. | " | testis 4 mm. | 126.3 |
|-----|-------|---|--------------|-------|

(##816-920: 80 bird skins, 6 bird skeletons, 19 amph. and reptiles)

Journal

Pitelka
1948

JOURNAL

Aug. 28 Santa Cruz Island, 10 ft., Santa Barbara Co., Calif.

Left MVZ at 11 A.M. or so, yesterday, with O.P. Pearson, heading for Santa Barbara via route 101. We reached S.B. at 7 p.m., and after dinner began to inquire about boat transportation out to Santa Cruz Island around the city harbor and naval installations. Found several persons most helpful, especially the harbor master and his assistant. We were put in touch with a Beverly Alexander, with whom we arranged to make the trip on Saturday (today) on his boat, the "Blue Jin." We spent Saturday A.M. shopping, and got to the harbor shortly before noon to find Alexander there, back from another trip. At the harbor master's suggestion, I phoned and then went to see Pier Gherini, owner ^[entire family] of the eastern "head," who was most cordial. [He informed me that Dean Blanchard was back in Santa Barbara after a long absence in Ecuador. Gherini asked that we get in touch with him upon our return to the mainland and suggested that we might contact Blanchard through him. Both Pearson and I are interested in doing this.] Gherini tried mainly to apprise me of his families concern over various hazards provoked by visitors to the island and wanted simply

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Aug. 28 Prisoners' Harbor, Santa Cruz I.

to make sure we understood their regulations.

We left the mainland at about 1 and took 2 hours to reach Prisoners' Harbor, on the north side of the island, at the west end of the neck. The sea was exceptionally calm, and the trip was most pleasant. We saw a group of 4 porpoises, which followed us for a short while, also several sea lions near Santa Cruz Island, and numerous sharks loafing at the surface, ranging probably from 4 to 5 feet in length in most cases. They were especially common about 5 to 10 miles offshore. We noted a group of 3 Marbled Godwits flying overhead, several large groups of shearwaters (all ^{pink-footed}, but one lone individual, a sooty), a group of phalaropes on the water surface, feeding (apparently northern), an Ashy Petrel (not dead certainly, only a lone bird, but almost certainly this), scattered Western Gulls, occasional cormorants, near the mainland and again near the island, and a dragon-fly (!), about half-way to the island, heading toward the mainland.

On arriving at the dock at Prisoners' Harbor, we piled our gear on the dock-end, after finding no one around the houses or barns near the dock, and decided to walk

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Aug. 28 Prisoner's Harbor, Santa Cruz I.

to the main ranch house of the E. L. Stanton establishment in order to inform them of our arrival and to try to make arrangements for use of some of the facilities near the dock.

There was a Chinese cook plus a foreman and his three assistants. These constitute the population on Stanton's part of the island when Stanton plus his family and friends are not visiting. ^{(checked given letter from Stanton, then} The foreman ^{near the docks} gave us permission to use a small house, occasionally used by the US Navy.

The island rises rather abruptly out of the sea, and the slopes go up several hundred feet to a ridge running more or less east-west.

Reaching this slope and opening into the shallow bay on which Prisoner's Harbor, at the west end, is located, is a broad canyon, filled with an alluvium of coarse gravel and sandy soil, representing the main drainage of the island's interior. This interior drainage follows a fault line from west to east, roughly to the middle of the island, then turns NE to open into the earlier mentioned shallow bay (on the N side of the island's "neck"). The N and NW-facing slopes, also most canyons, at lower elevations, are covered with oak woodland. What appears to be Q. agrifolia is common ^{at the mouths of side canyons and} along the sides of the main canyon flat; at least two other oak species are present and these

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Aug. 28

Prisoner's Harbor, Santa Cruz I.

are present on the drier sites, covering certain slopes up to the main ridge. With oaks occur Prunus ilicifolia, here a good-sized tree, and Photinia. The understory vegetation, ^{if any is present,} consists of grasses or low shrubs, or both. Often there are scattered patches of shrubby herbs, usually some composite. A Solanum is fairly frequent, Urtica occurs in moist areas, and where the ground is not too disturbed, there is Symphoricarpos; but in general, understory vegetation is poor, in part possibly because of the low rainfall last season, but probably chiefly because of the ^{surface of disturbance} tramping of both sheep and hogs, and the ~~foraging~~ by the latter when they are hunting for food. (Pearson reports remains of acorns in the droppings of hogs.).

The driest slopes, facing S or SE along the main canyon above Prisoner's Harbor, are partly barren or eroded, with large rock slides locally, and partly vegetated with Opuntia, which is abundant, shrubs ^(Cercocarpus alnifolia; Adenostoma), ^{when present,} of various sorts, and scattered oaks. Herb cover is patchy and sparse.

On the canyon flat and along the slope bases, herb cover is locally more abundant. An umbellifer, apparently dill (Foeniculum), is common and occurs in masses suggesting Comum in the Berkeley area.

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Aug. 29 Prisoners Harbor, Santa Cruz I.

Spent morning observing jaip at several sites to a distance of about $1\frac{1}{2}$ miles up canyon. Saw a number of new species today, the most interesting of which was Balanophylla. Also, saw a pair of rufous-crowns with bob-tailed young out of the nest no more than 2 or 3 days. There were at least two young; the adults called alarmedly while I was nearby.

Saw a snake briefly as it slid ^{quickly} onto a patch of Foeniculum; I could not locate it again. It was of a yellowish olive brown dorsally, without pattern, and suggested the racer of our Berkeley hills.

In the evening Pearson and I got a total of 10 Hylas out of a large drinking tank used by cattle and horses, near the dwellings at the harbor.

Aug. 30 Walked up to the Stanton ranch headquarters, then west for about $1\frac{1}{2}$ miles. The central valley is broad, and the flatter parts are under cultivation for about two miles west of the ranch houses. There are three Eucalyptus groves along the road within that distance. Otherwise the south-facing slope is covered with an open shrub-oactus grass-vegetation; the north-facing slope with short, scrubby oaks. Live oaks occur at the base of the N-facing slope and scattered along the base of the S-facing slope as well as in

Peterson
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Aug. 30 Prisoner's Harbor, Santa Cruz I.

the side draws of the latter slope. One of these I followed for a half-mile or so. It was a cut through large chunks of solid rock, and the stream bed consisted of a series of bowls of varying size and depth succeeding each other in more or less step fashion. I was stopped by a narrow part of the canyon where there was a deep pool at the base of a 6-foot drop. Water was present in most of the bowls, and it moved from one to another in a slow trickle. The morning was hot at 10 or so, and house finches, doves, green-backed goldfinches, and other birds were coming to this water. Bewick wrens and redbirds were the most common birds on the neighboring slopes.

Aug. 31 Spent the morning watching Jays and collecting along the watered part of the main canyon below the main ranch house. Collected one California Woodpecker, saw & heard two others. They are wary, and with the ground and litter so dry, ~~on the ground~~, it is difficult to stalk them, and most other things for that matter. Ravens present in numbers up to 20 around a pig killed last Saturday; today it was about $\frac{3}{4}$ devoured. Saw an adult bald eagle in the canyon this morning. An adult Hutton Vireo in molt (two old tail feathers, others stubby) was seen feeding a fully grown fledgling.

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Sept. 1 Prisoner's Harbor, Santa Cruz I.

Walked up canyon, this morning, about a mile, then climbed up to the south ridge and to a peak about south of Prisoner's Harbor. From here I had an excellent view of the island and identified the main peak (Devil's Peak, 2400+ ft.) and ~~and~~ four minor peaks to the west, plus one to the east. ^{On the ridge} the air was ^{hot and} stone still; the weakest of breezes blew only a few times while I was there.

The island was surrounded by fog which was spilling up the central valley from the east, and I could see the mainland over the fog layer filling the distance between it and the island. [A memorable day - I stripped and "relaxed" there!]

On the dry oak-scrub covered slopes, along the route to the ridge, Thryomanes bewickii and Amorphula ruficeps were the two most common species. I saw grown juveniles of the latter were seen, and two adults collected were in an early stage of molt. A towhee adult with two well grown fledglings was also noted; the latter followed the adult about, begging for food. One flock of brush-tits was noted on the return trip. Mourning doves were common along the ridge; one nest, in an oak, 5 feet above the ground, was found. It contained two fresh eggs (one taken and broken). One Ash-throated Flycatcher was present on the ridge. Several ^{and a group of 3 or 4} gnatcatchers, Mocking birds and Flickers were also noted.



Sept. 1 High ridge 1 mi. S Prisoner's Harbor, Santa Cruz I.
 Also House Doves (a few individuals) ^{and a pair of Hutton Vireos} were noted along the ridge. One Chipping Sparrow was seen there.

A horned lark was seen flying overhead and also heard calling while I was on the ridge. Later in the day, when Pearson and I drove the Navy jeep to the radar station, we saw another on the open grassy hills to the east of Prisoner's Harbor. A number of western meadowlarks were noted at the latter place, as also Mourning Doves and a single flock of about 15 House Doves. Several mock-
 ingbirds were seen enroute to the radar station.

Jays were scarce once I left the canyon bottom and the ^{areas of} denser live oaks bordering it.

Two pairs and two lone individuals were noted one of the latter was collected and proved to be an adult male. These were all present in areas where there were steep-walled upper ends of canyons filled with oak brush together with the more open, scrubby woodland on the neighboring gentler slopes.

Sept. 2 Collected near camp today. The abominable condition of many of the molting residents makes collecting and preparing them as specimens more or less futile. Most of the skins thus far prepared have given some trouble. Towhees, Bewick Wrens, Rufous-crowns, and flickers are in heavy molt. Jays in general seem to be somewhat ahead of these

Sept. 2 Prisoners Harbor, 10 ft., Santa Cruz I., Santa Barbara Co., Calif.
species.

Two juvenal rufous-crowns taken today did not show signs of the post-juvenal molt.

Wave of migrants appeared today, including Bullock Oriole (1), Western Kingbird (1, a bird in juvenal plumage, collected but not kept), several Empidonaxes, Western Tanager⁽¹⁾, and Lazuli Bunting (2+?; also noted yesterday up the canyon). Two Cedar Waxwings, both in juvenal plumage, were seen this morning; one was heard yesterday.

In the afternoon Pearson and I drove to Christy's Ranch at the west end of the island. Each trip into the interior of the island impresses one with the marked difference in climate between the coastal area, such as that along the north shore where we are located and the interior valley. It seems that the farther inland ^(and the higher up) one goes, the warmer it becomes. Do air currents from the mainland play a part in the climate of Santa Cruz Island?

Between the Stanton Ranch Headquarters and the west end of the island, one passes over two ridges crossing between the main east-west ridges. Along the entire length of the route, the S-facing slope is dry; much of it, especially higher up, is barren rock, and where there is vegetation, it is low, dry scrub.

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Sept. 2 Enroute to Wend and back, Santa Cruz I.

and cactus with sparse grass and occasional larger shrubs or small trees of oak, Prunus, manzanita, etc.; chiefly on the draws or on less exposed slopes. On the ^N-facing slope, for the most part, there is oak scrub with manzanita, Prunus, Cercocarpus, etc., and a varying admixture of live oak along the base of the slope.

Meadowlarks were observed in some numbers on the more grassy, rolling slopes. Shrikes and mockingbirds, though common nowhere, seemed regularly distributed. Three bald eagles (an adult about $\frac{1}{2}$ mile inland and 2 immatures on the beach) were observed at the Wend. An adult duck hawk half-circled around us while we were on the beach.

Sept. 3 Spent morning watching jays and hunting along narrow part of canyon about 2 miles SW of camp. Icterus bullockii, Parusna amoena, Paranga ludoviciana noted there. Saw and heard (both scold notes and garbled song of immature males given several times) one Troglodytes aedon, which was shot, but the specimen could not be found. Empidonax difficilis seen and heard several times giving the typical song notes.

Myiarchus cinerascens, one individual, was again noted around camp. Wilsonia pusilla has been seen daily; it is more common now than when we first arrived. A adult House Finch followed by a well grown fledgling begging for food and calling

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Sept. 3 Prisoner's Harbor, Santa Cruz I.

repeatedly were noted near camp. Barn Swallows have been noted daily; a group of 5 or 6 were present up canyon this morning.

Sept. 4 5½ mi W Stanton Ranch Hdqtrs., 1400 ft., Santa Cruz I.

Last night Pearson and I drove up to the ridge at the head of the W-facing canyon above Christy's Ranch, where occur the only good stands of Santa Cruz Island pine that we have seen thus far. The area is one of rather spectacular beauty, there being several ^{large} canyon drainages ^{as well as peaks} visible from the ridge, also the ocean to the south and west, and Santa Rosa Island beyond. To the north of our location is seen Devil's Peak; to the south a broad canyon drainage leading to ^{Lagoon} Johnsons, with a good area of shrubs and trees on a NW-facing slope, opposite our location, with ironwoods standing out conspicuously in the draws or on slopes where they received cool updrafts; to the SW is another, sharp peak, without a name so far as we know; to the west and east are broad canyons along the main fault of the island. In that to the west, the pines grow on the N-facing slopes and form a forest very similar to the type formed by Monterey pine. The trees were relatively young, as so it seemed from the fact that most of the trunks ran about 4-8 inches in diameter with the trees rather closely set. Associated with the pines were several species of oak, (one Q. agrifolia), Photinia, Comarostaphylos, Vaccinium ovatum, Diplocus (common), manzanita, and Prunus. Young growth ^{of Ceanothus} of apparently stump sprouting species,

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Sept. 4 5½ mi. W Stanton Ranch Helipos., 1400 ft., Santa Cruz I.

was also present. Scattered, but regularly occurring young scrub oaks (a small-leaved species also present on more exposed sites within the forest area), also stump-sprouting *Adenostoma* along the ridges and above the upper limits of the forest seemed to indicate that there had been some major disturbance on the area, presumably a fire, as some evidence of burning was found in the forest.

The trees of the forest were rather openly spaced on some slopes, with quite an admixture of various shrub species, rather dense in other areas, where the trees were chiefly young ones. Everywhere there was fallen, old timber, and the ground was covered with a good layer of litter. Lichen growth covered most ^{large} branches.

The weather struck us as somewhat odd and attested to the rather complex picture of local climate to be found on this island. In the evening and late into the night, a ^{strong, dry} wind blew over the ridges. But one needed to drop ^{(into one of the small side draws of the W-facing canyon} only a few feet to meet a cool wind, and farther down the air was quiet. Sometime well after midnight, the wind died down, and a dew began to settle. In the morning, the W-facing canyon was filled with dense fog to a short distance below the main ridge, over which the fog spilled occasionally into the canyon to the east. Fog was present also along the west-facing slopes to the SW of us. It would appear that the pine occurs on N-facing slopes as far

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Sept. 4 5½ mi. W Stanton Ranch Hdqtrs., 1400 ft., Santa Cruz I.
east as Prisoner's Harbor, ~~and~~ on W facing slopes along
the west shore, and on N-facing slopes in the interior
in canyons facing more or less west and receiving
a maximal amount of fog. In the forest visited by us,
it was ~~obvious~~ ^{evident} that the fog brings in an appreciable
amount of moisture, as most everything was moist
in the morning, the ground litter was soft, wet
in places where there was a good amount of fog
drip.

No species of bird seen in the pine area was new
to my list. Those noted were Aphelocoma coerulescens
(common), Pipilo maculatus, Spizella passerina, Carpodacus
mexicanus, Thryomanes bewickii, Vireo huttoni, Colaptes
cafer, Balanosphyra, Mimus polyglottos, Empidonax
difficilis, Zenaidura macroura, Vermivora celata

[? doubted later; supposedly heard on the 4th, but not seen there later.]
One Sparrow Hawk (no. 861) flew in from neighbouring
open country and perched atop one of the taller trees. Aimophila
ruficeps was present in scrub-grass areas above
the forest and over the ridge, but not within it. Two
Western Tanagers drifted through the forest briefly in the
morning. One White-throated Swift flew overhead, making
several foraging circles over the ridge area in the morning
as I was returning from my hunt.

Sept. 5 Spent day in camp, collecting briefly nearby and watching
jaegers. B. Alexander of Santa Barbara showed up in the
"Blue Tin" shortly after 8, and we arranged with him to have
a boat come and pick us up on the morning of the

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Sept 5 Prisoner's Harbor, 10 ft., Santa Cruz I.

14th. He also took our postal cards to mail in SB.

Morning around camp quiet. No migrants except group of six Panerculus sandwichensis seen on beach. Young House Finch following adult male seen again today. Waxwings, Barn Swallows and Pileolated Warbler seen again today.

Sept 6 Hunted along bluff NW of Prisoner's Harbor in the direction of Pelican Inlet, about a mile, from which point I was in sight of the mouth of the inlet. In this area the vegetation was perhaps as mixed and varied as in any we have visited. Quercus agrifolia, with occasional understory individuals of Photinia and Comarostaphylos, filled the canyons. In the canyon (farthest), there was a good ground cover of bracken fern occurring in patches under the oaks wherever the surface was not eroding away actively. On the exposed, ^{and steeper} sites were grass-cactus and scattered low scrub, and on the more gentle, north-facing slopes was the usual scrub-woodland of oak, Anacostaphylos, Cercocarpus, Photinia, and Comarostaphylos. Along some of the ridges running toward the sea, and on the moister sites along those ridges (usually facing NW) there were scattered pines, almost all of them large. This fact together with the presence of many dead pines and their distribution around a large burn area suggest that there was perhaps once an extensive pine forest here. What pines remain do not appear to be reproducing, and it would appear that in the vicinity of Prisoner's Harbor,

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Sept. 6 Prisoners' Harbor, Santa Cruz I.

there will be pines only as long as these few relict stands survive. Certainly the situation here contrasts sharply with that seen at the upper end of the Christy Ranch canyon.

Mockingbirds were ^{observed} more commonly in this area than anywhere else on the island. Three eagles, one dark, two with white heads and partially white tails, were seen near remains of five dead sheep. Ravens were present in droves. The eagles were not seen to come down ~~to~~ the carcasses, but the dark one soared for a brief period with a large group of ravens, and twice one of the latter swooped down at it causing it to ^{a short distance} drop suddenly. Other species noted were.

Vireo huttoni, *Vermivora celata*, *Aimophila ruficeps*, *Colaptes cafer* (fairly common around older and fallen down timber, but shy), *Thryomanes bewickii*, *Calypte anna* (?), Mourning dove (common), scrub jay (see notes). *Psaltirius minimus* heard once.

In the evening Pearson and I drove up into the grassy region along the main E-W ridge, about 4 mi. E of the ranch headquarters. Here there are extensive grassy areas spotted with patches of cactus and local areas of scrub-woodland (here *Q. agrifolia*, occasional *Photinia* included). *Eremophila* and *Stemella* were common. One shrike was seen. Ravens flew overhead along

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Sept. 6 4 mi E Stanton Ranch Hdqtrs, Santa Cruz I.
an evening flight line leading to the east, observed
also at Prisoner's Harbor. Found a pair of scrub
jays feeding one young out of the nest probably
10 days or so (see notes on Aphelocoma).

Spent the night on the ridge.

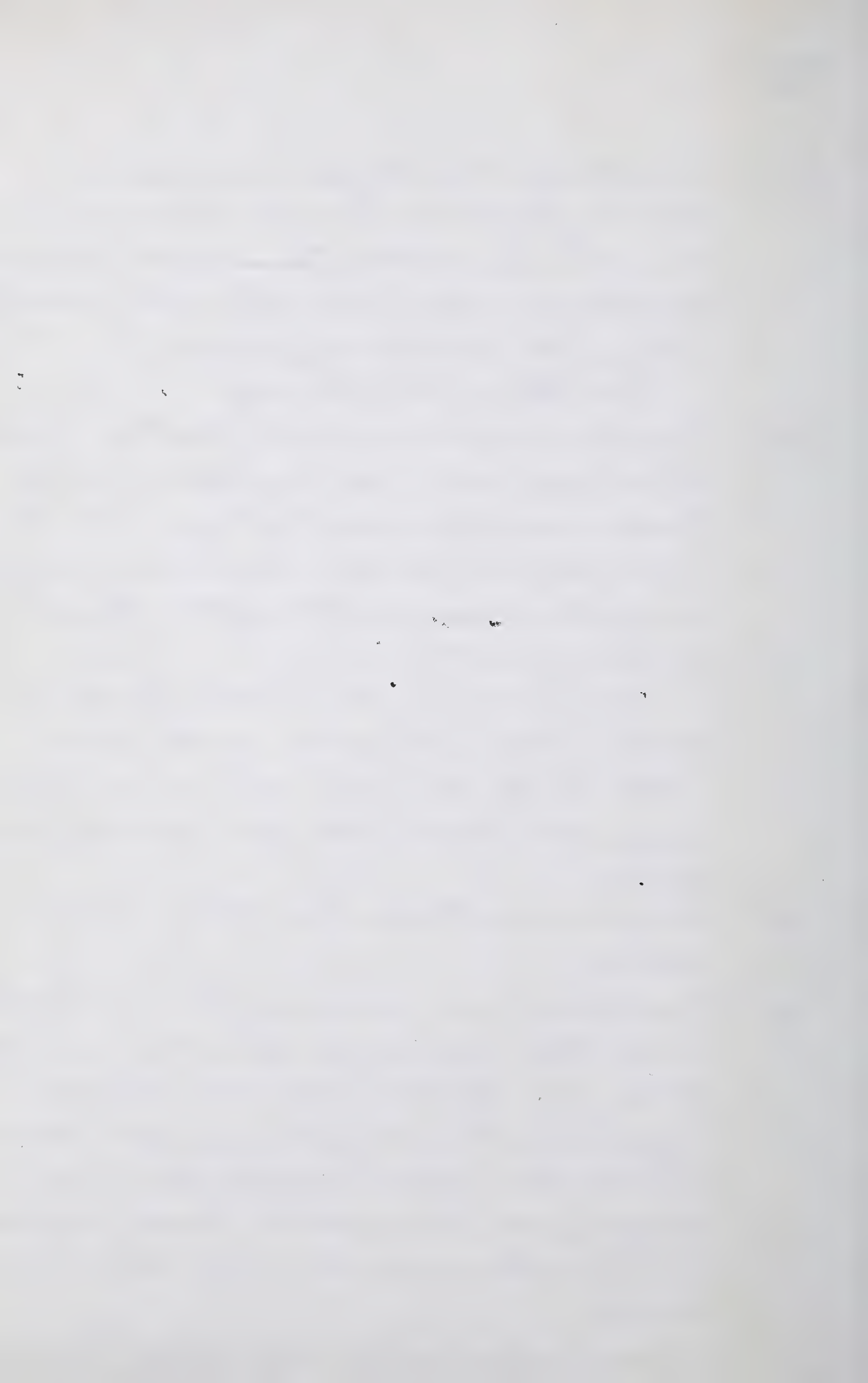
Sept. 7 Fog heavy, and I could do no hunting. Checked
the oak grove where jays were taken while
Pearson was out checking his traps, but there
was no sign nor sound of additional young,
or any other birds, for that matter, because of
the fog apparently.

Skinned remainder of birds obtained yes-
terday. Obtained a yellow warbler and
another western kingbird near camp. Passerina
amoena still present, also Parus sandwichi-
ensis.

Sept. 8 Stayed in camp to skin birds accumulated
yesterday.

Sept. 9. Worked along main canyon again. Collected
a male Allen Hummer in a late stage of molt.
It was first detected by the characteristic
wing sound. I have been puzzled by the absence
of ^{adult} males in the supposed resident population of
Selasphorus sassa on this island. Possibly they have
been ^{relatively} inactive because of molt and so easily over-
looked.

Several yellow warblers noted today, one in the



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Sept. 9 Prisoner's Harbor, Santa Cruz

canyon and at least one near camp. Spotted Sandpiper seen on gravel beach in front of camp. Three *Balanosphyras* were observed in the main canyon; one shot at and hit, but it was able to fly off. Pileolated Warblers relatively common. Black-headed Grosbeaks, tanagers noted again.

Sept. 10 *Vireo gilvus* present around camp yesterday. *Tyrannus verticalis* (third individual) again seen today. Also tanager, grosbeaks and a yellowthroat (immature, judging by buffiness of underparts), ^{the last} present both yesterday and today. Also an *Empidonax*, possibly *trilli*.

Sept. 11 Revisited pine area along route to Christy's Ranch. Day very warm, no breeze at all, and by the time I arrived, bird activity had subsided for the most part. Jays common, -present through the forest wherever there were small openings, and along the ridges leading down through the forest. ~~Birds~~ Jays in pairs, some of them associating loosely with small groups of young, the latter probably family groups. One jay observed ^{again} feeding from pine cone. ~~Just~~ ^{Just} year bird taken was one of three in a group. Other species noted: Towhee, Hutton vireo, orange-crown, flicker, raven, mockers, Bewick wren, house finch, mourning dove, Anna and Allen Hummers, Chipping sparrow. Migrant Barn Swallows in flight over forest. At Christy's Ranch, there were two House wrens, and a Dark Sparrow, A Townsend

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Sept. 11 Christy's Ranch, W end Santa Cruz I.
Warbler was collected.

Sept. 12 Pearson and I drove to the ranch headquarters this morning and westward to the beginning of the southern ridge route, which we took to the west to the pine forest area where the ridge route meets the main route. From here we turned south, dropping down into a broad canyon, with White Mountain to our right (west) and continuing on to the ocean to the point known as "Laguna". The country was reminiscent of parts of Southern Nevada - rough, steep, barren slopes, sparsely vegetated; broad, gravelly canyon wash; trees few and scattered; brush and cactus (Opuntia) common, but patchy in occurrence. At the ocean, on the high part of the beach, there was a cholla-like cactus mixed in with the Opuntia.

We stopped along the first, lower ridge south of the main valley, about 2 mi W of headquarters and took a photo of the scrub-woodland, which here consisted chiefly of manzanita, oak, and, in lesser quantity, Adenostoma and a Ceanothus.

Bald Eagle and Duck Hawk, also Brown Pelican noted at Laguna.

According to boat captain, "Red" Crane, rainfall for the 1940-41 season recorded at the ranch

Petalpa
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Sept. 12 Prisoner's Harbor, Santa Cruz I.

Headquarters was 56 inches.

Unquiet today, a fog gathering in the morning. During our morning drive, we saw that the island was more or less surrounded by fog. Around 12 or so, fog drifted into the canyon mouth at camp. Later in the afternoon, around 4 we drove up to the radar station and were again amazed at the heat and dryness at the higher elevations. There was a strong, dry wind blowing southward over the island.

Saw a Vesper Sparrow on the beach in front of camp. Heard a Barn Owl call once in flight after dark. Yellow Warblers present today, as also at least one additional yellowthroat (collected). More tanagers and more pileolated warblers. Most marked migratory influx today. Savannah Sparrows still around.

Sept. 13 House Wren again seen today. One Winter Wren present in dead brush in an open eucalypt grove. Yellow Warbler present. Pearson caught an immature yellowthroat in a mouse trap.

Sept 14. Returned to Santa Barbara via Hueneme, and to Berkeley the following day.

Species accounts

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Aphelocoma coerulescens

Aug. 29 Prisoner's Harbor, 50 ft., Santa Cruz I., Santa Barbara Co., Calif.

7:45 AM. Lone bird calling from ^{oak in a} side draw west of 2nd Eucalyptus grove. Note given was the interrogation note, uttered intermittently. Some birds on other side of main canyon answered. The jay I was watching then dropped to ground and began searching for food, picking leaves and debris and throwing them to the side. This continued for a few minutes, the jay ^{resting a moment,} jumping up to one of the prostrate branches and then resuming his foraging. It found an acorn, and then moved up into the tree by short leaps, and left, flying into a neighboring oak and then across the canyon, through the Eucalypt grove to the other side, where, as mentioned earlier there were other jays.

Later. - A pair noted in an oak-wooded area at the mouth of a small side canyon (^{five} oaks more or less continuous along southeast side of main canyon, also replaced by some scrubby, less leafy form higher in the side canyons and on exposed slopes), to which area their activities were more or less localized. They foraged quietly in the oak canopy, then flew off a short distance up slope.

A lone individual (proved to be an adult male, #816) observed at another canyon-mouth woodland site. This individual remained quiet throughout the 10-minute period or so that I watched him. He too stayed in the area where first found in spite of the fact that my walking through it disturbed him at least twice. A loose flock of jays

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Aphelocoma

Aug. 29 Prisoner's Harbor, 50 ft., Santa Cruz I., Santa Barbara Co., Calif.
was present, ^{and calling intermittently} no more than 75 yards beyond this individual, but he did not respond to them at any time. No other individual was present, and so far as I could tell, this male was alone. When I shot it, no calls were heard; the flock earlier mentioned had moved on. The male taken was about $3/4$ through the molt; the outermost tail feathers are not quite $1/2$ grown and the ^{old} outermost primary is still present.

Group of five 1st-year birds found quietly feeding in small grove of Prunus trees on canyon flat. They were picking the fruits of this cherry (P. ilicifolia), about an inch in diameter, and either carrying them off across the canyon or eating the meat off of the stone in the same tree. One of these five was taken. Later the same group was watched, and on this occasion an adult was present in one of the trees, also. It was not actively feeding, although occasionally a cherry was taken and partially stripped of its meat; rather the bird was loafing; more or less casually moving about in the tree, now resting, now breaking a twig, now pounding a branch with ~~its~~ ^{its} beak, etc. Once while resting, it began to sing softly, the bill opened slightly. In pattern and quality, ^{this} song did not differ from that of the mainland birds. However, the song was given in a more animated fashion, in that several times

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Aphelocoma

Aug. 29

the jay raised its head in time with some slight inflection in the song. Most interesting was soft, hoarse, cough-like note, given twice each of three times and accompanied by a forward dip of the body. During all other parts of the song performance, the jay retained more or less normal perching posture. This dipping behavior and accompanying cough-like notes has not been observed ^{by me} in the mainland races.

Aug. 31 9:40 am of adults
Two birds about 1/4 mi SW of camp in main canyon. Feeding quietly in upper branches of oak, moving about nervously, sitting quietly for periods of a minute or so, plucking themselves occasionally, then picking insects off the edge of a main vertical branch or climbing up into the twigging and pecking an acorn which was then pounded. The two birds moved about within a few feet of each other, one occasionally following the other ^{but not closely} when the latter found some food item and repeating the search. In their movements through the branches, they do not seem to be heavier or slower than the mainland birds.

9:55 A third jay flew down to the flat immediately in front of me, landing on the ground. It then joined the pair under observation. After a short search, it moved back to the end of a few moments. The second ^{of some distance} which took place in a canyon, the third bird being in the same locality. One of the pair, presumably the

female did not leave and continued to feed. I heard ^{several} series of 4-5-6 notes after the song and about, given ^{from} ~~direction~~ which chasing jays flew, but could not see them. After the last series of notes, the jay ~~returned~~ ^{returned} and resumed feeding.

9:20 Feeding now continued in among grass & sycamore ^{where} the water is low, but open beneath and where there is a good lot of.

9:25 Moved on to other side of arroyo, where I rounded the end of the ridge, there were three jays, one of them a bird of the year in an early stage of the post-molt. All three drank from a pool in the stream bed, though not all at once. The young bird was at times no more than two or three yards from the other jays, but no chase ensued. The latter presently moved along the slope down canyon, leaving the young bird alone.

10:00 - Another pair of adults located farther upstream.

Male called alarmingly as I approached, female stayed behind ^{and as the male called at} gave the frog note and bobbed several times simultaneously. Later - A jay ~~gave~~ ^{gave} a frog note with several notes best recorded as ik-ik-ik.

Ptilo
1948

Aphelocoma

Aug. 31 Santa Cruz Island, California

9 a.m. Pair of adults observed about 1-3/4 mi. SW of camp in main canyon. Feeding quietly in upper branches of oak, moving about listlessly, sitting quietly for periods of a minute or so, preening themselves occasionally, then picking insects off the side of a main vertical branch or climbing up into the twiggy and picking an acorn which was then pounded. The two birds moved about within a few feet of each other, one occasionally following the other out of curiosity when the latter found some food item and repeating the search. In their movements through the branches, they do not seem to be heavier or slower than the mainland birds.

9:10 a.m. A third jay flew downslope, perched momentarily in a dead tree overlooking the canyon live oaks, then joined the pair under observation. A short chase occurred immediately. I could not see the birds for a few moments; then a second chase of some distance took place up canyon, the chasing bird calling kra-kra-kra-kra loudly. One of the pair, presumably the female, did not leave and continued to feed. I heard three series of kra-kra notes after the second chase, given nearby from the direction in which chasing jays flew, but could not see them. About two minutes after the last series of notes, the jay returned and resumed feeding.

9:20 a.m. Feeding now on ground in among grass and *Symphoricarpos* where the oaks are low, but open beneath and where there is a good litter.

9:25. Moved on to other side of ridge. When I rounded end of the ridge, there were three jays, one of them a bird of the year in an early stage of p-j molt. All three drank from a pool in the stream bed, though not all at once. The young bird was at times no more than 2 or 3 yards from the other jays, but no chase ensued. The latter presently moved along the slope down canyon, leaving the young bird alone.

10 a.m. Another pair of adults located farther upstream. Male called alarmedly as I approached, female stayed behind, and as the male called, she gave the frog note and bobbed several times simultaneously.

Later. A jay ended a frog note with several notes best recorded as ik-ik-ik.

Aphelocoma

Sept. 1 1 mi SW Prisoner's Harbor, Santa Cruz I.

Large group of jaip, including 3 or 4 adults and perhaps a half dozen just-year birds, was observed moving along a slope, back and forth, over an area apparently regularly inhabited by an established pair. Several chases were noted, also two actual clashes, one of them resulting in screaming of one of the jaips. Entire group very active and noisy. The entire sequence ^{in all essentials} resembled several such sequences noted in the Berkeley Hill jaips (see Canyon Road notes).

The frog note seems to be given by the ♀ when the ♂ calls kra-kra-kra excitedly. This was observed in the sequence described above; and also ^{in the morning,} later, when a pair was found ^{high} on the NW facing slope, the male flew down slope calling and the ♀ frog-noted at once, ending the note with ~~three~~ ^{four} inflected notes, ik-ik-ik.

Aphelocoma

Sept. 3 2 mi SW Prisoner's Harbor, Santa Cruz I.

Jays along narrow canyon checked for third time this morning. None have been collected from the area as yet. Pairs (^{adults} recognizable by incompletely grown tail feathers; ^{in most individuals,} sexes recognizable by size differential) are about 300 feet apart, as closely spaced as anywhere I have seen them here, or on the mainland for that matter. Of course, the habitat in this canyon area is exceptional from the standpoint of scrub-jay preferences, and one can probably ~~look~~ ^{regard} the population there as of maximal density. Young of the year associate ^{loosely} with adults, presumably their parents, though in only one case does there appear to be a normal-sized family group. One ^{young} bird still feathered superficially with juvenal plumage was found at the same spot where it was seen on Aug. 31.

The chief activity of the jays was foraging, both on the ground and in the oak foliage. (my impression is that in these as in the mainland birds, most foraging is done on the ground). Doreularis, like oreleptica, hops about the ground, throwing leaves and twigs to the side. On finding an acorn, it is taken to a branch, and pounded and eaten or carried, as was seen once today, to a grassy spot on the opposite slope of the canyon and buried. The acorn-burying action was precisely as in oreleptica — initial exploration

Aphelocoma

Sept. 3 2 mi. SW Pisoneri's Harbor, Santa Cruz Island.

of ground, insertion of a corn, pounding of it, and covering of it with leaves and twigs from surface litter nearby.

The jays were silent for the most part. Only once did a male call in alarm as I approached, and in this instance, as in a number noted since my observations were begun here, the female answered immediately with the frog note, varying it from others heard by giving a kei note at the beginning. The only other calling was in conjunction with ^{intermittent} ~~phases~~ by adults (presumably ^{active} males of isolated pairs) when a roving, loose group would move into the territory of an established pair.

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Aphelocoma

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Sept. 7 Stanton Ranch Hdqtrs., Santa Cruz I.

First-year bird taken by Earl, the gardener, not prepared as skin. A male, testis 3 mm. Weight, 112.5 gr. Chin area refeathered, as also sternal area, and line down neck; sides of head and neck, old feathers; old feathers also among undertail coverts and on femoral areas. But in both places ^{some} new feathers were about $\frac{1}{3}$ - $\frac{1}{2}$ grown; remainder of body with only scattered old feathers evident, but feather growth active everywhere.

Sept. 4 5½ mi. W Stanton Ranch Hdqtrs., 1400 ft.

Jays common in pine forest. Collected eight, including two in post-juvenal molt (see specimens under date of Sept. 4). Others in post-juvenal molt were seen. A number of ^(three) adults were obtained ^{at more or less one spot} in a brief hunting period in the evening along with the two in p-j molt and one already ~~for~~ through that molt. Also, in the morning, while the jays were quietly feeding and so somewhat more difficult to locate, they were regularly distributed. One adult was seen inspecting opened cones on the branches of a partially dead pine. Others were observed in shrubbery and also on the ground. One was seen taking berries of Vaccinium ovatum. Berries of several kinds, pine nuts, and acorns (not yet ripe) are available here in plentiful quantity.

Sept. 6. Two pairs of jays found in small canyons, one pair in each, along NE facing slope in the direction of Pelican Inlet. ♀ of one and both members (only or saved) of other

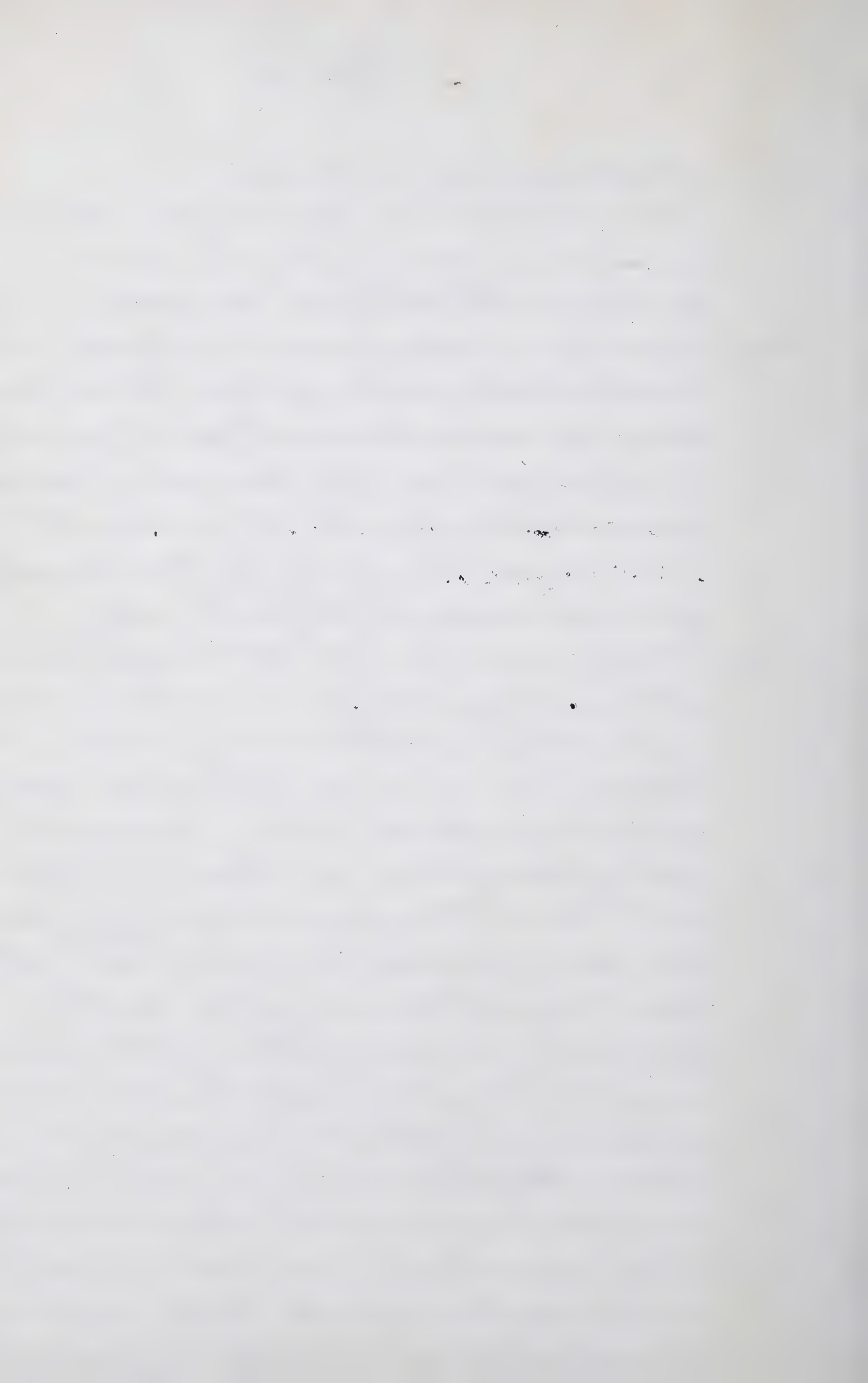
Aphelocoma

Sept. 6 NW of Prisoner's Harbor, Santa Cruz I.

pair were collected. In third canyon, Both adults and some roving young of the year were seen. Jays were generally distributed in this area.

Sept. 7 A first-year bird, which proved to be a female, was collected at the Stanton Ranch Hdqrs. It had been calling ~~era-kaa-kaa~~ in the manner typical of unlocated, lone first-year birds. One of these series of ~~kaa~~ notes was ended with a frog note, ki-dr-r-r-r. At this time the jay was sitting up in a dead tree, casually pecking at branches, ^{when not calling,} or just perched quietly.

Sept. 9. A lone jay found at a spot about 2 mi SW camp in the main canyon as the female of a pair noted earlier at the same spot on several occasions. The male was taken on the 7th. Throughout a period of about 45 minutes this morning when I was either watching her or was nearby, she did not call. Once two ^{Jays,} one of them a bird of the year, the other probably also, moved through the area ^{and called,} but she did not respond to them in any way. (Sex here is judged solely on the basis of relative size, the difference in insularis being at once evident when a pair of adults are seen together.) The individual just discussed is ~~apparently~~ ^{apparently} remaining on a home territory in spite of the loss of its mate (as noted in oocleptics). That it does not call as these lone birds sometimes do may be in part due to the fact that this individual, as all taken thus far, is in a late



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Aphelocoma

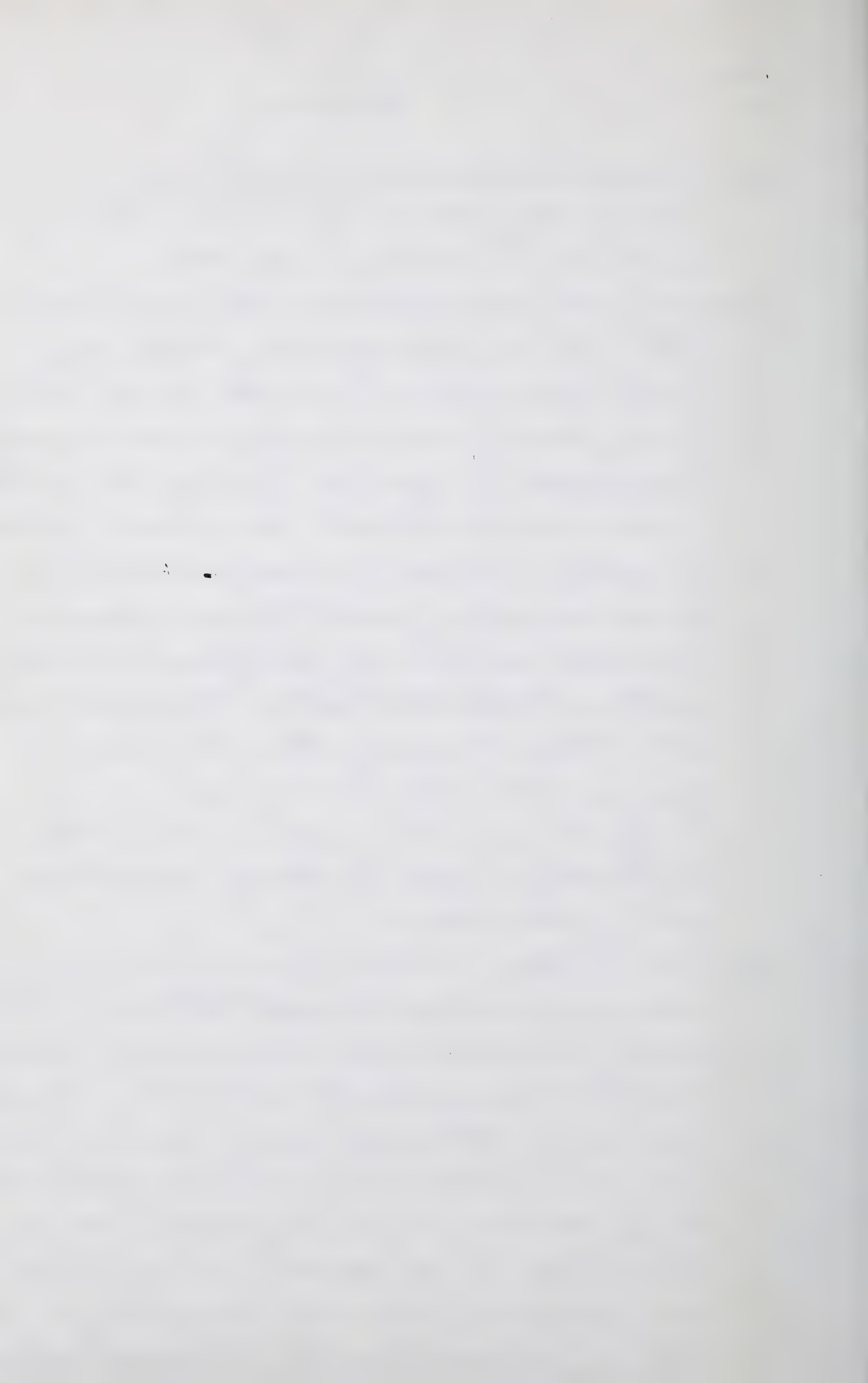
Sept. 9 2 mi. SW Prisoner's Harbor, Santa Cruz I.

stage of molt, on the ^{territorially established} lone birds that call may be males. This ^{latter} needs to be investigated.

Sept. 6 Went with Pearson to the area of the radar station about 4 miles east of the ranch headquarters, on the main ridge. Most of the area is rolling grass hills with patches of cactus, or steep, rubble-covered slopes sparsely vegetated. In a few areas there is oak scrub-woodland. In one such patch of woodland, I found a pair of adults, both in an early stage of molt (female advanced over male) and a single fledgling, with tail feathers still sheathed basally. These were discovered when I heard the series of whine notes given by young jays when they are being fed.

After the juvenile and ♀ were taken, the male called kā-ee'-āh, strongly inflected, a note of extreme alarm.

Sept. 9 Two ^{adult} ♀♀ taken on the 7th from willow grove near camp were ~~first~~ ^{when taken,} thought to be a pair, but sexing showed otherwise. Subsequently the same date (7th) I saw an adult in the grove which may have been the male. Today there is a pair in the grove. A third bird came to one of the willows, to a point between the two supposedly paired birds. The "female" was casually moving about on one of the willows, the "male" was resting on a branch, preening himself. The third bird was



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1948

Aphelocoma

Sept. 9 Prisoner's Harbor, Santa Cruz I.

Hammering at some object it was carrying, otherwise making no noise, when the "male" apparently saw it for the first time, and dashed at it, chasing it out of the willow grove. The third Jay flew across ~~across~~ an opening into an elm, where I collected it. It was an adult male, and was there again hammering at what proved to be a pine nut. When the male chased, he did not call. The female gave a frog note as the chase occurred — dr-r-r-r-ka-yi-yi-yi-yi-yi, not loud.

Pitella
1948

Aphelocoma

Aug. 30 1 1/2 mi. W Stanton Ranch Hdqtrs., Santa Cruz I.

Three jays observed in a group; one remained quiet, the second called ^{repeatedly} in mild alarm, apparently because of my presence, and the third uttered the frog-note, bobbing 3 or 4 times while giving the note, as the second was calling. I collected all three: all were adults, the first a female completely through the molt; the calling bird was a male in late molt; the bird which responded to him was a female about 2/3 through the molt. A 4th bird passed me just as I was approaching this group and, ^{judging by the direction from which it came} must have been included in it just as I came along.

2 mi. SW Prisoner's Harbor

Two jays in molt, one of them in an early stage, apparently represent a late-breeding pair, as indicated by molt and also presence of a ^{young bird in juvenal plumage} ~~juvenile~~ within a few feet of the female (smaller of the pair), ~~with~~

Aug. 31 1/2 mi S Prisoner's Harbor

Shot an orange-crown which flew a short distance into an oak before dropping noisily on the litter under the oak. The shot attracted a male jay, which uttered a single loud kra-a as it plunged into the oak. Just at that moment the warbler fell, the jay cocked his head looking down at it, then dropped down, picked it up, and flew away. I went after the jay, and fortunately it switched

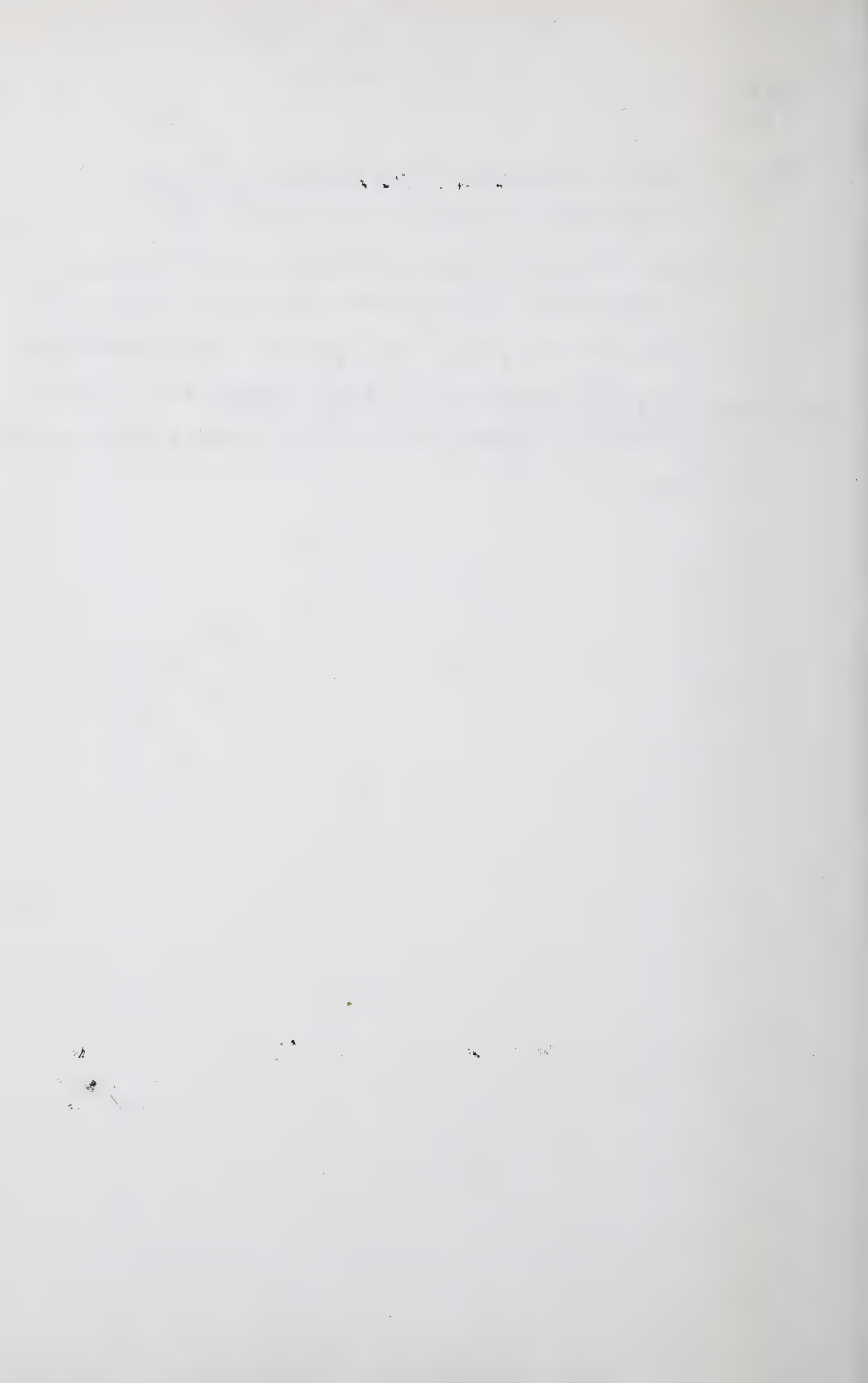
Petalua
1948

Aphelocoma

Aug. 31 1/2 mi. S Provo's Harbor, Santa Cruz I.

back instead of continuing on up the slope. The jay
flew into a Eucalyptus thicket, where I soon located
and shot it. The warbler was a few inches from the
jay, its wing and tail feathers all pulled out
as well as some of the body (especially back)

Neck was broken in two places. Otherwise the warbler was intact.
feathers. Apparently the jay would have fed
on it.



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1948

Aphelocoma

Aug. 29 Santa Cruz Island, Calif.

The "krack" note of the insular race is different from that of the mainland forms, but difficult to describe, as ^{the difference} it is only slight. Pitch seems to be the same, but the note is louder, more of a "kwack" than "krack," somewhat reminiscent of a magpie call. The note is ^{now} given mainly amongst scattered or loosely flocking individuals that are probably mostly if not all 1st-year birds. ^{(so calling and} One seen was clearly a bird of ^{the} year with not yet through the post-juvenal molt.

Most surprising of the notes heard today was the "frog" note typically given by Cyanocitta in the Berkeley area and elsewhere. This note, ^{or its counterpart in A. c. oocleptica} is what I have called the gurgle note. In quality it is similar to the note heard from insularis, but rather than being ^{hoarse, coarsely} a single, grating note somewhat drawn out, it is broken into several parts with a prominent inflection toward the end.

Aug. 29 The soft "krack" note heard. It seems to be more or less identical with that of oocleptica.

Sept. 9. kraa-ä - given singly, apparently a sort of location note.

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1948

Corvus corax

Aug. 31

Santa Cruz Island, California

Pair present about cliffs, moving back and forth between two outjutting ridges. Once they came to one of these and the larger of the two, presumed to be the male, perched about 15 feet below the other. He then performed in a manner never noted before by me. A series of four notes, nollow, deep, not loud, were folled by a series of three sharp notes apparently made by snapping the beak. Notes 1-3 rose in pitch slightly, the last dropped. To give these notes, the raven pulled his head in, bill pointed down, then riased his wings and plumage about the head slightly. As the four notes were given, the head was raised, wings dropped, into normal position. Then, following a slight pause, the bill notes were given. This performance was given three times separated by pauses of several seconds. The male then looked up at the female, took wing and repeated the performance t ice on wing. The female called once, a mild, drawn out kraaa, then followed him.

ku-ku-ku-kā kē.kē.kē

seconds

List of Birds Observed

Aug. 28 *Aphelocoma c. insularis*

Corvus corax

Haliaeetus leucocephalus
~~*Egretta chrysaetos*~~

Carpodacus mexicanus

Mimus polyglottos

Zenaidura macroura

Vireo huttoni

Thryomanes bewickii

Lanius ludovicianus

Sayornis nigricans

Aimophila ruficeps

Pipilo maculatus

Colaptes cafer

Oxyechus vociferus

Aug. 29 *Merula rustica* (also 8/28; 9/1; 9/3)

Wilsonia pusilla

Vermivora celata

Pheucticus melanocephalus (8/31 - 9/7 9/11)

Spizella psaltria

Empidonax (difficilis?) (definitely on 9/3)

Calypte anna also 9/6

Selasphorus (sasin?)

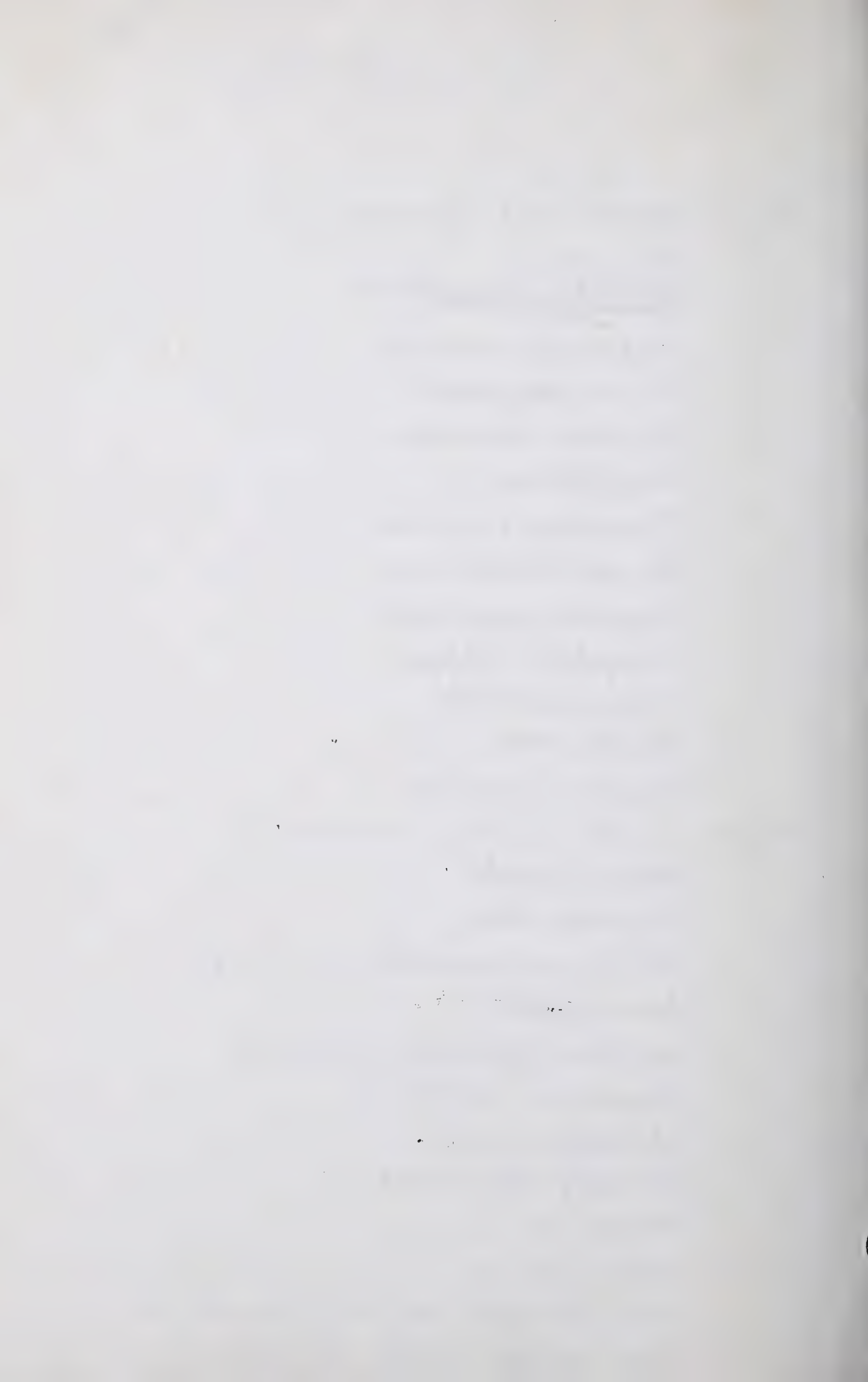
Balanosphyra formicivora.

Falco sparverius

Buteo jamaicensis

Megascops alcyon (also 8/30) 9/3; 9/6; 9/7-9/13)

Ardea herodias (also 8/31) 9/2; 9/6-9/12



Aug. 30 *Psaltiriparus minimus*

Spizella passerina

? *Phasianus colchicus*

Poliophtila caerulea

Aug. 31 *Sturnella neglecta*

Myiarchus cinerascens (also 9/1; 9/3)

Passerella melodia

Sept. 1 *Empidonax ?traillii*

Eremophila alpestris

Sept. 2 *Falco peregrinus*

Piranga ludoviciana through 9/9

Icterus bullockii through 9/8

Tyrannus verticalis also 9/7

Parus amoena through 9/8

Bombicilla cedrorum through 9/6

Sept. 3 ? *Vireo gilvus* (heard scolding only)

Troglodytes aedon also 9/6; 9/7

Sept. 4 *Aeronautes saxatilis*

Sept. 5 *Parus sandwichensis* also 9/8

Sept. 9 *Actitis macularia*

Geothlypis trichas

Sept. 10 *Troglodytes troglodytes*

Sept. 11 *Chondestes grammacus*

Dendroica townsendi

Sept. 12 *Poocetes gramineus*

Tyto alba

Also —

Vermivora ruficapilla

Vermivora virginia

Dendroica aestiva

Agelaius phoeniceus

Salpinctes obsoletus 9/6 and
at least one other date.

58 species.

